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Air Emissions Species Manual. Volume 1
Volatile Organic Compound Species Profiles
Second Edition

Radian Corp., Research Triangle Park, NC

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16. ABSTRACT

The U.S. Environmental Protection Agency (EPA) has several activities that require speciated particulate matter (PM) or volatile organic compounds (VOC) profiles from several source categories. In an effort to update the available speciated PM profile data base, EPA initiated studies to update the "Receptor Model Source Composition Library" (EPA-450/4-85-002) and produce a revision entitled "Air Emissions Species Manual - Volume II, Particulate Matter Species Profiles" (EPA-450/2-88-003b). Similarly for VOC emissions, EPA performed studies to revise the "Volatile Organic Compound Species Data Manual - Second Edition" (EPA-450/4-80-015) and provide an updated version in the "Air Emissions Species Manual - Volume I, Volatile Organic Compound Species Profiles" (EPA-450/2-88-003a).

The purpose of this document is to update VOC profiles in the Air Emissions Species Manual, Volume I.

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Volatile Organic Compound Species Profiles

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This report has been reviewed by the Office of Air Quality Planning and Standards, U.S. Environmental Protection Agency, and approved for publication as received from the contractor. Approval does not signify that the contents necessairly reflect the views and policies of the Agency, neither does mention of trade names or commercial products constitute endorsement or recommendation for use.

EPA-450/2-90-001a

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FOREWORD

This report is the result of a cooperative effort between the Office of Air Quality Planning and Standards' Air Quality Management Division (AQMD) and the Office of Research and Development's Air and Energy Engineering Research Laboratory (AEERL). The overall management of the program was the responsibility of AQMD. AEERL was responsible for the development of selected VOC species profiles as well as program review.

ABSTRACT

The U. S. Environmental Protection Agency (EPA) has several ongoing activities that require speciated volatile organic compound (VOC) or particulate matter (PM) profiles from several source categories. In 1980, EPA published the "Volatile Organic Compound (VOC) Species Data Manual, Second Edition" (EPA-450/4-80-015) which provided VOC species profiles for some emission source categories. In 1985, EPA published the "Receptor Model Source Composition Library" (EPA-450/4-85/002) which contained particulate matter (PM) species profiles for several source categories. More recently, EPA published the "Air Emission Species Manual - Volume I, Volatile Organic Compound (VOC) Species Profiles" (EPA-450/2-88-033a) and the "Air Emissions Species Manual - Volume II, Particulate Matter Species Profiles" (EPA-450/2-88-033b). These documents represent expansions of the 1980 and 1985 VOC and PM species profile document.

In 1989 EPA updated the VOC and PM profile data bases by adding in new profiles and making necessary revisions to existing profiles. These updates are contained in the document "Addendum to the Air Emissions Species Manual" (EPA-450/2-88-003c). The objective of the current study is to produce a second edition of the "Air Emissions Species Manual" (EPA-450/2-88-003a,b) that incorporates and contains all the updates specified in the "Addendum ..." document.

The updated VOC species profile data base is contained in Volume I of this second edition document. The VOC profile data base includes VOC profiles from primarily three sources: (1) the 1980 VOC Data Manual, (2) new VOC profiles developed from readily available existing data, and (3) new VOC profiles developed from original data as a result of the VOC speciation field sampling program. In addition to the VOC profiles, Volume I contains profile assignments that link a profile to a source category. For categories where profile data are not available, the profile assignments are based on engineering judgement.

The revised PM species profile data base is contained in Volume II of this document. It was developed from multiple sources of information. Many PM profiles were extracted from the Source Composition Library with minor

changes in format to facilitate inclusion of additional information in the profiles. A large number of PM profiles were developed by contacting researchers working in the areas of PM species profile development and source receptor modeling. These researchers were questioned regarding the availability of PM species profile data that were not already contained in the Source Composition Library or the Air Emissions Species Manual. New species profiles were developed from data submitted by the researchers for a variety of source categories. A limited number of new PM profiles developed from literature review are also included in the PM data base. As in the VOC profile data base, the PM data base also contains profile assignments.

VOLUME I - VOLATILE ORGANIC COMPOUND (VOC) SPECIES PROFILES

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EXECUTIVE SUMMARY

The U. S. Environmental Protection Agency (EPA) has several activities that require speciated particulate matter (PM) or volatile organic compound (VOC) profiles from several source categories. Some of these activities are preparation of air toxics and acid precipitation emission inventories, acid precipitation modeling studies, receptor modeling, and ozone strategy development. In an effort to update the available speciated PM profile data base, EPA conducted studies to update the "Receptor Model Source Composition Library" (EPA-450/4-85-002) and produced a revision entitled "Air Emissions Species Manual - Volume II, Particulate Matter Species Profiles" (EPA-450/2-88-003b). Similarly for VOC emissions, EPA has performed studies to revise the "Volatile Organic Compound Species Data Manual - Second Edition" (EPA-450/4-80-015) and provide and updated version in the "Air Emissions Species Manual - Volume I, Volatile Organic Compound Species Profiles" (EPA-450/2-88-003a). The Air Emissions Species Manual (Volumes I and II) was recently updated by the document "Addendum to the Air Emissions Species Manual (EPA-450/2-88-003c). The update took the form of adding in new PM and VOC profiles to the speciation data base and making revisions to several existing VOC profiles.

The objective of the current study was to produce a second edition of the Air Emissions Species Manual for VOC that contains all existing VOC profiles data and those VOC data contained in the "Addendum" document (EPA-450/2-88-003c). The "Addendum" document added only eight new VOC profiles to those contained previously in the first edition of the VOC Species Manual (EPA-450/2-88-003a). These eight profiles are numbered 1205 to 1212 and pertain to crude oil production and processing sources.

The only other change to the first edition of the VOC Species Manual, contained in the "Addendum," relates to corrections that were made in three profiles for mobile sources. Minor revisions were made to existing VOC profiles for light-duty gasoline vehicles to reflect corrections necessary for compounds that coelute on the gas chromatography analyses. The specific VOC profiles affected by the revisions are 1101, 1203, and 1204. The primary revisions were to the benzene/cyclohexane and propane/propene splits.

Overall, there are over 250 original VOC profiles in this document. Of these profiles, about 30 percent are extracted from the 1980 VOC Data Manual, about 65 percent are new profiles developed from existing data or based on engineering judgement, and about 5 percent are new profiles from the VOC species field program. In addition, this document contains about 50 industry-specific average profiles. The profiles from the 1980 VOC Data Manual cover the following source categories: petroleum products, surface coating operations, external and internal combustion, solid waste disposal, primary and secondary metal production, and asphalt production. Most of the new profiles developed from existing data represent the following source categories: organic chemical manufacturing, storage of organic chemicals, aircraft emissions, oil and gas production, surface coating operations, mobile sources, and gasoline evaporation. The profiles for the last three categories were replacements for poor quality and/or outdated profiles in the 1980 VOC Data Manual.

The VOC profile data contained in this volume are presented in a format that is basically the same as the one used in the 1980 Data Manual. Each profile contains the following information:

Profile name
Profile number
Profile data quality
Control device identification
References
Data source
Source Classification Code (SCC)
Chemical species identified by: Storage and Retrieval of Aerometric Data (SAROAD) code, Chemical Abstract System (CAS) number, species name, molecular weight, weight percent
Date

In addition to the VOC profiles, this document contains VOC profile assignments for all SCC's in the National Emissions Data System (NEDS) and applicable NEDS area source codes and additional area source codes used in the National Acid Precipitation Assessment Program (NAPAP). Ideally, a profile would be needed to represent each one of these categories. However, the number of categories to be characterized is much larger than the available profiles. Therefore, profile assignments that involve linking a VOC profile to a source category that does not have an original profile assignment are developed using engineering judgement.

Source category profile assignments are especially important in activities such as preparation of air toxics and acid precipitation emission inventories and acid precipitation modeling studies. For several SCC's, profile assignments using engineering judgement were not possible; however, in such cases, industry-specific average profiles were developed. These profiles were developed from original profiles representing other SCC's within the same industry group. The industry-specific average profiles are intended for use only if there is no other information available. In addition, a "zero" profile which is an overall average based on all the VOC profiles in the data base was developed. This profile is intended for use only as a default profile to represent those SCC's characterized by "zero" or "negligible" VOC emission factors according to the document "Criteria Pollutant Emission Factors for the 1985 Emissions Inventory" (EPA-600/7-87-015) and for which the States or any other agency have reported nonzero emissions.

SECTION 1
INTRODUCTION

The U. S. Environmental Protection Agency (EPA) has several ongoing activities that require speciated volatile organic compound (VOC) profiles from several source categories. Some of these activities are preparation of acid precipitation and air toxics emission inventories and ozone strategy development.

As part of an effort to update the available speciated PM profile data base, EPA conducted studies to update the "Receptor Model Source Composition Library" (EPA-450/4-85-002) and produced a revision entitled "Air Emissions Species Manual - Volume II, Particulate Matter Species Profiles" (EPA-450/2-88-003b). Similarly for VOC emissions, EPA has performed studies to revise the "Volatile Organic Compound Species Data Manual - Second Edition" (EPA-450/4-80-015) and provide an updated version in the "Air Emissions Species Manual - Volume I, Volatile Organic Compound Species Profiles" (EPA-450/2-88-003a). The Air Emissions Species Manual (Volumes I and II) was recently updated by the document "Addendum to the Air Emissions Species Manual (EPA-450/2-88-003c). The update took the form of adding in new PM and VOC profiles to the speciation data base and making revisions to several existing VOC profiles. The objective of this current document is to provide a Second Edition of the Air Emissions Species Manual for VCC that incorporates the data in the previous Volume I report and the Addendum document.

The production of the original Volume I of the Air Emissions Species Manual (EPA-450/2-88-003a) for VOC was based primarily on the 1980 VOC Data Manual (EPA-450/4-80-015), a field sampling program, and limited literature data. Revision of the 1980 VOC Data Manual consisted of identifying poor quality and/or outdated profiles and replacing them with new VOC profiles. Profiles for which there were no replacements were retained in the data base even if the profiles were of low data quality. In cases where there were several profiles representing a given source category, the most general profile with the highest quality level was selected. The profiles extracted from the 1980 VOC Data Manual were included in the current work without any changes except revisions made to data quality indicators for pure solvent/product profiles. The original references used in developing these profiles in the 1980 VOC Data Manual were also included as part of the references listed in this report. The profiles from the 1980 VOC Data Manual are identified by profile numbers ranging from 0001 through 0333.

Several new VOC profiles were developed as a result of literature search efforts that focused on revising the poor quality and/or outdated VOC profiles in the 1980 VOC Data Manual, and filling the existing data gaps primarily in the air toxics area. The key sources of information used included a study conducted for the California Air Resources Board (Reference 1), source assessment and background information documents, Section 114 responses and trip reports from several standard development activities, and work conducted by the Atmospheric Sciences Research Laboratory. In addition, work performed during the Northeast Corridor Regional Modeling Project (NECRMP), work currently in progress under the National Acid Precipitation Assessment Program (NAPAP), data obtained from Environment Canada, and data obtained from States were reviewed (see Appendix A for details of the data gathering and review activities).

In addition to the profiles developed from existing data, five new VOC profiles were developed from original data that resulted from a VOC speciation test program (see Appendix G for details). These profiles represent the following source categories: gasoline marketing, degreasing, drycleaning, autobody repair, and graphic arts-printing.

Overall, close to 200 new profiles were developed. About 80 percent of the new profiles cover source categories that were not characterized in the 1980 VOC Data Manual, e.g., organic chemical manufacturing, oil and gas production, organic chemical storage, plastics production, textiles, aircraft emissions, etc. The remaining 20 percent are replacements for poor quality and/or outdated profiles in the 1980 VOC Data Manual. Most of these profiles cover the surface coating operations, mobile sources, and gasoline evaporation. Other profiles developed in this study included pure component profiles to represent storage or solvent usage operations that involve handling and use of pure compounds. Development of these profiles was based on engineering judgement.

In several cases, speciated data were available from a single emission source. In cases where data were available from a number of emission sources, the data were composited in proportion to the emissions rate of each source (refer to Appendix A where a detailed description of species profile development is included).

This document represents the Second Edition of the VOC Air Emissions Species Manual. It was compiled from the data in Volume I (EPA-450/2-88-003a) and from VOC data in the "Addendum to the Air Emissions Species Manual" (EPA-450/2-88-003c). The Addendum document served to add eight new VOC profiles and make revisions to three existing data base profiles. The eight additions reflect information on oil wells and oil field operations that EPA obtained from the Tulsa City-County Health Department. Tulsa recently conducted a sampling and analysis program to quantify emissions of 30 organic compounds from six different types of oil field operations. The Tulsa data were submitted to EPA and profiles were developed according to the protocols and procedures specified in the VOC Air Emissions Species Manual (EPA-450/2-88-033a). The original Tulsa sampling results can be obtained from the report "Oil Field Emissions of Volatile Organic Compounds" (EPA-450/2-89-007). The VOC profiles added to the data base by the Tulsa data are numbered 1205 to 1212.

The revisions to the existing data base involved mobile sources profiles. Minor revisions were made to the VOC profiles for light-duty gasoline vehicles to reflect corrections necessary for compounds that coelute on the gas chromatography analyses. The specific VOC profiles affected by the revisions are 1101, 1203, and 1204. The primary revisions were to the benzene/cyclohexane and propane/propene splits.

The activities where VOC species profiles are applied typically employ SCC codes for point sources and the NEDS area source codes to represent emission source categories. Ideally, each source category would be characterized by an appropriate VOC profile. Since there are much fewer species profiles than source categories, a VOC profile is assigned to other source categories that are judged to be similar to the source category(ies) having the original profile. This document contains VOC profile assignments for all the SCC's in the NEDS data base and the applicable NEDS area source codes. In addition, profile assignments are provided for area source codes used in the NAPAP studies. The development of VOC profile assignments is discussed in detail in Appendix C. Also included in this appendix are the listings of the assignments for both point and area sources.

To provide the reader/user with guidance on the overall quality of data contained in each profile, an arbitrary scheme (A, B, C, D, E) similar to the one used in AP-42 was used to rank each profile. For example, Profile Data Quality A was assigned to profiles that were considered representative of the total population of sources within a given SCC and that were based on sound analytical techniques with full documentation. Profiles based on engineering judgement and that may not be considered representative of the total population were assigned Profile Data Quality E. A more detailed discussion on profile data quality is contained in Section 2.

Data quality indicators were also used to characterize the VOC profile assignments. Where the VOC profile assignment is based on an original profile, the data quality indicator reflects the Profile Data Quality on the profile (see Section 3). In cases where the assignment is based on engineering judgement, the data quality is typically lowered one or more levels depending on how well the profile represents the "new" category.

For several SCC's, profile assignment using engineering judgement was not possible. In such cases, industry-specific average profiles were developed from original profiles representing other SCC's within the same industry group. These profiles have numbers starting with 9 and are recommended for use only if there is no other information available. In addition, Profile 0000 which is an overall average based on all the profiles in the data base was developed. This profile is intended for use only as a default profile in applications such as emission inventory development. The "zero" profile is applied to those SCC's characterized by "zero" or "negligible" VOC emission factors and for which the States or any other agency have reported nonzero VOC emissions. The SCC's with "zero" and "negligible" emission factors were identified from the document "Criteria Pollutant Emission Factors for the 1985 NAPAP Emissions Inventory" (EPA-600/7-87-015).

This document is divided into four sections with numerous supporting appendices. Section 1 contains this introduction. Section 2 describes the VOC species profile format and discusses the applicability of VOC profiles in various activities. Section 3 contains the VOC profiles for both point sources and area sources, followed by the list of references.

There are seven appendices that provide additional information:

Appendix A - Literature Search and VOC Species Profile Development
Appendix B - Industry-Specific Average Profiles and "Zero" Profile
Appendix C - VOC Profile Assignments
Appendix D - Chemical Species Data File
Appendix E - Chemical Species Classification
Appendix F - Data File Description
Appendix G - VOC Speciation Test Program

SECTION 2
VOC SPECIES PROFILE FORMAT AND APPLICATION

2.1 VOC SPECIES PROFILE FORMAT

Table 2-1 is an example of the format used in presenting the VOC profiles for this document; it is basically the same as that used in the 1980 Data Manual except for a few changes. Although the profiles in the 1980 Data Manual contain chemical classification information for each species, this information is not included in this document, since there are several different classification schemes currently used. However, two examples are included in Appendix E. Another item that is not included in the new VOC profile format is information on volumetric or molar composition (volumetric or molar percentages). Several manual users indicated that this information is of very little use in their work. Each of the entries in Table 2-1 is described below:

Profile name: In a majority of the cases, the profile name is the descriptor used for the applicable source category. In cases where a particular profile is applicable to more than one source category, a more general term is used to identify a given profile.

Profile number: This is a unique number assigned arbitrarily to a profile. A numerical listing of all the VOC profiles in this document is provided in Appendix A.

Profile data quality: A ranking scheme is employed to assign data quality indicators to each profile. This approach is similar to the one used in the 1980 Data Manual and also consistent with the approach used in AP-42 for emission factors. The following criteria were used in assigning data quality indicators:

Data Quality A: Data set based on a composite of several tests using analytical techniques such as GC/MS and can be considered representative of the total population.

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TABLE 2-1. SAMPLE PROFILE

```
VOC Profile Speciation Report
--------------------------------------------------------------------------------
Profile Name   : Terephthalic Acid/Dimethyl Terephthalate Distillation and Recovery Vent
Profile Number : 1024
Data Quality   : D
--------------------------------------------------------------------------------
Control Device : Condenser
Reference(s)   : 29
Data Source    : Composite profile developed using data from four
                 emission sources (weighted according to emission
                 rates); one data set is based on vent analysis, and the
                 others are based on engineering calculations.

SCC Assignments: 30103104

--------------------------------------------------------------------------------
Saroad       CAS Number       Name                              Spec_MW  Spec_WT  Peak
--------------------------------------------------------------------------------
43301          67-56-1        METHYL ALCOHOL                      32.04     7.77
43350         115-10-6        DIMETHYLETHER                       46.07    66.64
43432          79-20-9        METHYLACETATE                       74.08    16.33
43503          75-07-0        ACETALDEHYDE                        44.05     8.43
45204          95-47-6        O-XYLENE                           106.16     0.83
--------------------------------------------------------------------------------
TOTAL                                                                      100.00
================================================================================
```

Data Quality B:	Data set based on a composite of several tests using analytical techniques such as GC/MS and can be considered representative of a large percentage of the total population. Profiles from the VOC field sampling program are assigned data quality "B."
Data Quality C:	Data set based on a small number of tests using analytical techniques such as GC/MS and can be considered reasonably representative of the total population.
Data Quality D:	Data set based on a single source using analytical techniques such as GC/MS; or data set from a number of sources where data are based on engineering calculations.
Data Quality E:	Data set based on engineering calculations from one source; data set(s) based on engineering judgement; data set(s) with no documentation provided; may not be considered representative of the total population.

Control device: This entry is used to indicate if the profile data represent an emission stream downstream or upstream of a control device (if present) since the composition of the uncontrolled and controlled streams may be significantly different.

Reference(s): This entry identifies the primary reference(s) used in developing the profiles. If more detailed information is required, the user/reader should consult these references.

Data source: This entry briefly describes the basis of the composition data used in the profile (e.g., number of tests, number of sources, analytical methods, how data were composited, etc.). More detailed information about the data used can be obtained from the references indicated.

SCC: This entry is the code for the source category for which the profile was originally developed. These codes are obtained from the current National Emission Data System (NEDS) for point sources (1-01-001-01 through

5-03-900-10) and area sources (01 through 64). Area source codes from 65 through 115 developed under NAPAP are also considered. A listing of area source codes and their descriptions is presented in Table C-3 of Appendix C.

Composition data: Each species in the profile data is identified by a SAROAD code, CAS number, species name, molecular weight, and weight percentage. SAROAD codes were obtained from Volume V of the Aeros Manual Series (third edition, September 1986). For species not contained in this manual, new SAROAD codes have been assigned following the methodology employed in the Aeros Manual.

In some profiles, the weight percentages are followed by peak identifiers (ID's). The peak ID's indicate groups of two or three species identified as a single peak in GC and/or GC/MS analysis. In most cases in this document, one of the species in a given peak was arbitrarily assigned the total weight percentage corresponding to the peak because of a lack of data to specify a better allocation. For example, in Profile 1097, peak (1) represents butyraldehyde and crotonaldehyde. The weight percentage for butyraldehyde is indicated as 1.24, while that for crotonaldehyde is listed as 0.00. A footnote is included at the end of such profiles to explain peak ID and its use. However, in several of the profiles for mobile sources, data were available to better allocate coeluting species. In these instances, all of the weight percentage was not arbitrarily assigned to one compound. For example, in Profile 1203, peak (12) represents benzene and cyclohexane. Test data have indicated that the split between the two compounds should be about 50/50. Therefore, the profile shows the split and not a total allocation to either benzene or cyclohexane.

It should also be noted that in some profiles, a given species appears more than once with different weight percentages and as part of different peaks. This is primarily due to the inability to distinguish between isomers of a given species in interpretation of raw GC/MS data. For example, in Profile 1192, the species isomers of undecane appears three times with different weight percentages: (1) zero percent, as part of peak (15) shared with octahydroindene (0.04 percent) and C11 olefins (zero percent); (2) 3.03 percent as a single peak; and (3) zero percent, as part of peak (17) shared with isomers of butylbenzene (0.10 percent).

Most of the CAS numbers were obtained from the National Air Toxics Information Clearinghouse Data Base (1985) and the Registry of Toxic Effects of Chemical Substances (1983 supplement to the 1981-82 edition). For some species/group of species, CAS numbers were not identified.

Date: This entry will be used to indicate the date the profile was last reviewed/updated by EPA.

2.2 LIMITATIONS OF DATA

All data identified through the literature search efforts were used as reported when developing the new profiles in this study. Only those data sets with sufficient documentation were included. No attempt was made to verify the completeness/accuracy of the data. The profile data (i.e., species and weight percentages) extracted from the 1980 VOC Data Manual were incorporated in the updated VOC data base with no changes.

In some cases, the profiles may not be a full characterization of the emission source. Therefore, the user/reader is cautioned to use these profiles with discretion. Nevertheless, the profile data quality indicator provides a qualitative measure of confidence in a particular profile.

Profiles for individual sources may vary considerably from the values provided in this document. Therefore, profiles in this document should not be used to characterize specific sources; rather, they should be used for screening purposes. Source-specific data should always be preferred to the use of literature data presented in this document.

2.3 VOC SPECIES PROFILE APPLICATION

There are several ongoing EPA activities that require speciated VOC data as an input parameter. These activities include preparation of air toxics emission inventories, ozone strategy development, and preparation of acid precipitation inventories. This section briefly discusses how to use this document and provides a specific example to illustrate how to use VOC species profiles in the preparation of air toxics emission inventories.

2.3.1 Document Guide

In addition to the VOC profiles contained in Section 3, Appendix C in this document includes VOC profile assignments for all the VOC profiles. This appendix also contains a listing of area source codes and their descriptions. Appendix A contains a numerical listing of all the profiles and their location in this document.

To identify the applicable profile for a given source category, the reader should (1) refer to Table C-1 or C-2 in Appendix C; (2) identify its location from Table A-1 in Appendix A; and (3) locate the actual profile in Section 3.

2.3.2 Example of Use of Profile

The easiest way to describe how profiles might be applied is to present a hypothetical example: A State air pollution control agency is interested in developing an air toxics emission inventory for the State. An earlier study conducted for the State has identified a list of toxic/potentially toxic compounds from several emission sources. The emission rates of these individual compounds will be used as an input to the proposed air toxics regulatory program for the State.

The profiles can identify the relative amounts of individual compounds in a given emission stream. In most cases, emission factors are available for total VOC's where the compound breakdown is not specified (e.g., AP-42 or the Criteria Pollutant Emission Factor document). The information contained in this document supplements these general emissions data. For a given source category, the appropriate VOC species profile should be identified using Appendix C and the total VOC emission factor should be multiplied by the weight fractions for each compound in the profile to determine compound-specific emission factors.

In this example, formaldehyde is one of the toxic compounds on the State's list and airport operations are a major emission source. From Appendix C, the reader/user identifies the profile appropriate for airport operations. Aircraft emissions are classified as area sources, and Table C-3 lists three types of airport operations (civil, military, commercial). Since the airport in question is commercial, the appropriate profile for area source code 047 is Profile 1098. To locate Profile 1098, the reader should refer to Table A-1 in Appendix A where the location of each profile is given. From this table, Profile 1098 is on page 395. If the reader/user is concerned with point sources, the SCC and the VOC emission factor for a particular category can be obtained from NEDS or the Criteria Pollutant Emission Factor document.

The weight percentage of formaldehyde in Profile 1098 is 15.00. Applying the weight fraction of formaldehyde to the total VOC emissions for the airport of 500,000 lb/yr, formaldehyde emissions are estimated as 500,000 x 0.15 = 75,000 lb/yr. The reader/user should review the "Data Source" description for the profile to ensure that the data apply to the specific situation on hand. If there are questions, the reader may wish to review the original document on which the profile is based.

SECTION 3

VOC SPECIES PROFILES - POINT AND AREA SOURCES

This section contains all the VOC profiles grouped in 29 separate sections according to source categories. The profiles representing point sources are presented first, followed by those representing area sources. The profiles are ordered numerically within each subsection. The following list can be used to identify and locate the profiles within each section.

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3.1 EXTERNAL COMBUSTION BOILERS

External combustion sources include utility, industrial, commercial and institutional boilers; commercial and domestic combustion units; process heaters, furnaces, and kilns. Coal, oil, and natural gas are the major fossil fuels used by these sources.

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```
VOC Profile Speciation Report
--------------------------------------------------------------------------------
Profile Name   : External Combustion Boiler - Residual Oil
Profile Number : 0001
Data Quality   : B
--------------------------------------------------------------------------------
Control Device : UNCONTROLLED
Reference(s)   : 58,59
Data Source    : Information based on stack sample for residual oil
                 analyzed by GC/MS.

SCC Assignments: 10100401, 10200401, 10300401, 39990002, 39990012

--------------------------------------------------------------------------------
Saroad       CAS Number       Name                            Spec_MW  Spec_WT  Peak
--------------------------------------------------------------------------------
43201          74-82-8        METHANE                           16.04    11.00
43212         106-97-8        N-BUTANE                          58.12    14.00
43231         110-54-3        HEXANE                            86.17     5.00
43502          50-00-0        FORMALDEHYDE                      30.03    42.00
43551          67-64-1        ACETONE                           58.08    28.00
--------------------------------------------------------------------------------
TOTAL                                                                   100.00
================================================================================
```

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VOC Profile Speciation Report

Profile Name : External Combustion Boiler - Distillate Oil
Profile Number : 0002
Data Quality : B

Control Device : Uncontrolled
Reference(s) : 58,59
Data Source : Information based on stack sample for residual oil analyzed by GC/MS.

SCC Assignments: 10100501, 10200501, 10300501, 10500205, 39990001, 39990011

Saroad	CAS Number	Name	Spec_MW	Spec_WT	Peak
43105		ISOMERS OF HEXANE	86.17	5.20	
43106		ISOMERS OF HEPTANE	100.20	2.60	
43107		ISOMERS OF OCTANE	114.23	4.70	
43122		ISOMERS OF PENTANE	72.15	5.50	
43204	74-98-6	PROPANE	44.09	1.20	
43212	106-97-8	N-BUTANE	58.12	12.20	
43214	75-28-5	ISO-BUTANE	58.12	4.10	
43220	109-66-0	N-PENTANE	72.15	4.70	
43231	110-54-3	HEXANE	86.17	10.80	
43232	142-82-5	HEPTANE	100.20	0.30	
43502	50-00-0	FORMALDEHYDE	30.03	48.70	
TOTAL				100.00	

```
VOC Profile Speciation Report
--------------------------------------------------------------------------------
Profile Name   : External Combustion Boiler - Natural Gas
Profile Number : 0003
Data Quality   : B
--------------------------------------------------------------------------------
Control Device : Uncontrolled
Reference(s)   : 58, 59
Data Source    : Information based on stack sample for natural gas
                 analyzed by GC/MS.

SCC Assignments: 10100601, 10200601, 10300601, 10500106, 10500206, 39990003, 39990013

--------------------------------------------------------------------------------
Saroad      CAS Number      Name                               Spec_MW   Spec_WT   Peak
--------------------------------------------------------------------------------
43105                       ISOMERS OF HEXANE                   86.17      1.00
43122                       ISOMERS OF PENTANE                  72.15      9.00
43201         74-82-8       METHANE                             16.04     56.00
43204         74-98-6       PROPANE                             44.09      4.00
43212        106-97-8       N-BUTANE                            58.12      9.00
43220        109-66-0       N-PENTANE                           72.15      6.00
43248        110-82-7       CYCLOHEXANE                         84.16      1.00
43502         50-00-0       FORMALDEHYDE                        30.03      8.00
45201         71-43-2       BENZENE                             78.11      4.00
45202        108-88-3       TOLUENE                             92.13      2.00
--------------------------------------------------------------------------------
TOTAL                                                                   100.00
================================================================================
VOC Profile Speciation Report
--------------------------------------------------------------------------------
Profile Name   : External Combustion Boiler - Refinery Gas
Profile Number : 0004
Data Quality   : C
--------------------------------------------------------------------------------
Control Device : Uncontrolled
Reference(s)   : 58, 59
Data Source    : Information based on stack sample for refinery gas
                 analyzed by GC/MS.

SCC Assignments: 10200701

--------------------------------------------------------------------------------
Saroad       CAS Number       Name                          Spec_MW  Spec_WT   Peak
--------------------------------------------------------------------------------
43201           74-82-8       METHANE                         16.04     7.60
43202           74-84-0       ETHANE                          30.07    20.90
43204           74-98-6       PROPANE                         44.09    18.90
43205          115-07-1       PROPENE                         42.08    17.50
43212          106-97-8       N-BUTANE                        58.12    23.10
43214           75-28-5       ISO-BUTANE                      58.12     4.40
43502           50-00-0       FORMALDEHYDE                    30.03     7.60
--------------------------------------------------------------------------------
TOTAL                                                                100.00
================================================================================
VOC Profile Speciation Report
--------------------------------------------------------------------------------
Profile Name   : External Combustion Boiler - Coke Oven Gas
Profile Number : 0005
Data Quality   : B
--------------------------------------------------------------------------------
Control Device : Uncontrolled
Reference(s)   : 58, 59
Data Source    : Information based on stack sample analyzed by GC/MS.

SCC Assignments: 10200707

--------------------------------------------------------------------------------
Saroad       CAS Number       Name                              Spec_MW   Spec_WT   Peak
--------------------------------------------------------------------------------
43201          74-82-8        METHANE                            16.04     82.80
43202          74-84-0        ETHANE                             30.07      2.50
43203          74-85-1        ETHYLENE                           28.05     11.70
43205         115-07-1        PROPENE                            42.08      0.30
43206          74-86-2        ACETYLENE                          26.04      0.80
45201          71-43-2        BENZENE                            78.11      1.90
--------------------------------------------------------------------------------
TOTAL                                                                     100.00
================================================================================
VOC Profile Speciation Report
-------------------------------------------------------------------------------
Profile Name   : Residential Fuel - Natural Gas
Profile Number : 0195
Data Quality   : C
-------------------------------------------------------------------------------
Control Device : Uncontrolled
Reference(s)   : 59
Data Source    : Information based on composite survey data and GC/MS
                 analysis of grab sample.

SCC Assignments:

-------------------------------------------------------------------------------
Saroad      CAS Number       Name                          Spec_MW   Spec_WT   Peak
-------------------------------------------------------------------------------
43201         74-82-8        METHANE                        16.04     100.00
-------------------------------------------------------------------------------
TOTAL                                                                 100.00
===============================================================================
VOC Profile Speciation Report
--------------------------------------------------------------------------------
Profile Name   : Coke Oven Blast Furnace Gas
Profile Number : 0217
Data Quality   : B
--------------------------------------------------------------------------------
Control Device : Uncontrolled
Reference(s)   : 49
Data Source    : Information based on composite survey data and GC/MS
                 analysis of sampling train catch.

SCC Assignments: 39000701

--------------------------------------------------------------------------------
Saroad      CAS Number       Name                            Spec_MW  Spec_WT   Peak
--------------------------------------------------------------------------------
43201          74-82-8       METHANE                           16.04    40.90
43202          74-84-0       ETHANE                            30.07     1.40
43203          74-85-1       ETHYLENE                          28.05     2.80
43205         115-07-1       PROPENE                           42.08     5.50
43213         106-98-9       BUTENE                            56.10     6.40
45201          71-43-2       BENZENE                           78.11    43.00
--------------------------------------------------------------------------------
TOTAL                                                                  100.00
================================================================================
```

VOC Profile Speciation Report

Profile Name : External Combustion Boiler - Coal-Slurry Fired
Profile Number : 1085
Data Quality : C

Control Device : Not reported
Reference(s) : 16
Data Source : Information from one source test where data were obtained using GC.

SCC Assignments: 10200213

Saroad	CAS Number	Name	Spec_MW	Spec_WT	Peak
43140		C7-C16 PARAFFINS	156.31	39.33	
43201	74-82-8	METHANE	16.04	20.00	
43202	74-84-0	ETHANE	30.07	38.66	
43220	109-66-0	N-PENTANE	72.15	2.00	
TOTAL				99.99	

VOC Profile Speciation Report

Profile Name : Coal-Fired Boiler - Electric Generation
Profile Number : 1178
Data Quality : E

Control Device : ESP
Reference(s) : 82
Data Source : Not described.

SCC Assignments: 10100202

Saroad	CAS Number	Name	Spec_MW	Spec_WT	Peak
43202	74-84-0	ETHANE	30.07	2.09	
43204	74-98-6	PROPANE	44.09	1.78	
43212	106-97-8	N-BUTANE	58.12	0.98	
43213	106-98-9	BUTENE	56.10	0.79	
43221	78-78-4	ISO PENTANE	72.15	1.22	
43227	627-20-3	CIS-2-PENTENE	70.13	1.05	
43231	110-54-3	HEXANE	86.17	9.45	
43232	142-82-5	HEPTANE	100.20	1.50	
43245	592-41-6	1-HEXENE	84.16	3.63	
43247	108-08-7	2,4-DIMETHYLPENTANE	100.20	6.39	
43264		HEPTENE	98.18	3.69	
45202	108-88-3	TOLUENE	92.13	5.62	
45203	100-41-4	ETHYLBENZENE	106.16	11.25	
45204	95-47-6	O-XYLENE	106.16	8.66	
45205	108-38-3	M-XYLENE	106.16	39.23	
90014	8720-50-9	1-DECENE	140.27	2.67	
TOTAL				100.00	

```
VOC Profile Speciation Report
-------------------------------------------------------------------------------------
Profile Name   : Coal-Fired Boiler - Industrial
Profile Number : 1185
Data Quality   : D
-------------------------------------------------------------------------------------
Control Device : Scrubber
Reference(s)   : 82
Data Source    : Stack gas samples collected in Tedlar bags and analyzed
                 by a GC.

SCC Assignments: 10200204

-------------------------------------------------------------------------------------
Saroad      CAS Number      Name                              Spec_MW   Spec_WT   Peak
-------------------------------------------------------------------------------------
43202          74-84-0      ETHANE                              30.07     17.79   (1 )
43203          74-85-1      ETHYLENE                            28.05      0.00   (1 )
43204          74-98-6      PROPANE                             44.09      5.20
43205         115-07-1      PROPENE                             42.08      0.77
43206          74-86-2      ACETYLENE                           26.04     15.43
43212         106-97-8      N-BUTANE                            58.12      6.38
43213         106-98-9      BUTENE                              56.10      6.09   (2 )
43214          75-28-5      ISO-BUTANE                          58.12      3.00
43215         115-11-7      ISOBUTYLENE                         56.10      0.00   (2 )
43220         109-66-0      N-PENTANE                           72.15      1.18
43221          78-78-4      ISO PENTANE                         72.15      1.24
43231         110-54-3      HEXANE                              86.17      7.80
43247         108-08-7      2,4-DIMETHYLPENTANE                100.20      0.00   (3 )
43262          96-37-7      METHYLCYCLOPENTANE                  84.16      2.90   (4 )
43263         591-76-4      2-METHYL HEXANE                    100.20      0.00   (4 )
45201          71-43-2      BENZENE                             78.11      3.78   (3 )
45202         108-88-3      TOLUENE                             92.13      8.39
45203         100-41-4      ETHYLBENZENE                       106.16      5.67
45204          95-47-6      O-XYLENE                           106.16      2.60
90010                       M-XYLENE AND P-XYLENE              106.16     11.76
-------------------------------------------------------------------------------------
TOTAL                                                                     99.98
=====================================================================================
```

3.2 INTERNAL COMBUSTION ENGINES

The major types of engines in this category are gas turbines and large, heavy duty, general utility reciprocating engines. Stationary internal combustion engines find applications in electrical power generators, in gas pipeline pump and compressor drives and in various process industries. The majority of gas turbines are used in electrical generation for continuous, peaking or stand-by power. The primary fuels used are natural gas and No. 2 (distillate) fuel oil, although residual oil is used in a few applications.

```
VOC Profile Speciation Report
--------------------------------------------------------------------------------
Profile Name   : Natural Gas Turbine
Profile Number : 0007
Data Quality   : C
--------------------------------------------------------------------------------
Control Device : Uncontrolled
Reference(s)   : 58, 59
Data Source    : Composite profile developed using data based on GC/MS
                 analysis of fuel combustion exhaust.

SCC Assignments: 20200201

--------------------------------------------------------------------------------
Saroad      CAS Number       Name                          Spec_MW  Spec_WT  Peak
--------------------------------------------------------------------------------
43201          74-82-8       METHANE                         16.04    70.00
43502          50-00-0       FORMALDEHYDE                    30.03    30.00
--------------------------------------------------------------------------------
TOTAL                                                                100.00
================================================================================
VOC Profile Speciation Report
--------------------------------------------------------------------------------
Profile Name   : Reciprocating Diesel Fuel Engine
Profile Number : 0008
Data Quality   : C
--------------------------------------------------------------------------------
Control Device : Uncontrolled
Reference(s)   : 58, 60
Data Source    : Composite profile developed using data based on GC/MS
                 analysis of fuel combustion exhaust.

SCC Assignments: 20200401, 20400402

--------------------------------------------------------------------------------
Saroad      CAS Number      Name                              Spec_MW  Spec_WT  Peak
--------------------------------------------------------------------------------
43201          74-82-8      METHANE                             16.04    11.60
43202          74-84-0      ETHANE                              30.07     2.80
43203          74-85-1      ETHYLENE                            28.05    28.70
43205         115-07-1      PROPENE                             42.08    17.30
43206          74-86-2      ACETYLENE                           26.04    11.30
43213         106-98-9      BUTENE                              56.10    13.40
43218         106-99-0      1,3-BUTADIENE                       54.09     7.00
45201          71-43-2      BENZENE                             78.11     7.90
--------------------------------------------------------------------------------
TOTAL                                                                   100.00
================================================================================
VOC Profile Speciation Report
-----------------------------------------------------------------------------------
Profile Name   : Reciprocating Distillate Oil Engine
Profile Number : 0009
Data Quality   : D
-----------------------------------------------------------------------------------
Control Device : Uncontrolled
Reference(s)   : 58, 60
Data Source    : Composite profile developed using data based on GC/MS
                 analysis of fuel combustion exhaust.

SCC Assignments: 20100102, 20200102, 20300101

-----------------------------------------------------------------------------------
Saroad      CAS Number       Name                                 Spec_MW   Spec_WT   Peak
-----------------------------------------------------------------------------------
43201          74-82-8       METHANE                                16.04     11.60
43202          74-84-0       ETHANE                                 30.07      2.80
43203          74-85-1       ETHYLENE                               28.05     28.70
43205         115-07-1       PROPENE                                42.08     17.30
43206          74-86-2       ACETYLENE                              26.04     11.30
43213         106-98-9       BUTENE                                 56.10     13.40
43218         106-99-0       1,3-BUTADIENE                          54.09      7.00
45201          71-43-2       BENZENE                                78.11      7.90
-----------------------------------------------------------------------------------
TOTAL                                                                         100.00
===================================================================================
```

VOC Profile Speciation Report

Profile Name : Internal Combustion Engine - Natural Gas
Profile Number : 1001
Data Quality : C

Control Device : Not reported
Reference(s) : 1
Data Source : Composite profile developed using samples taken from two reciprocating engines operating under normal conditions. Samples were analyzed using both a FID/PID GC and the MBTH method.

SCC Assignments: 20100202, 20200202, 20200204, 20300201

Saroad	CAS Number	Name	Spec_MW	Spec_WT	Peak
43105		ISOMERS OF HEXANE	86.17	0.02	
43106		ISOMERS OF HEPTANE	100.20	0.04	
43107		ISOMERS OF OCTANE	114.23	0.02	
43108		ISOMERS OF NONANE	128.25	0.01	
43109		ISOMERS OF DECANE	142.28	0.02	
43120		ISOMERS OF BUTENE	56.10	0.26	
43122		ISOMERS OF PENTANE	72.15	0.13	
43124		C9 OLEFINS	126.24	0.04	
43125		C10 OLEFINS	140.27	0.02	
43201	74-82-8	METHANE	16.04	76.69	
43202	74-84-0	ETHANE	30.07	14.00	
43203	74-85-1	ETHYLENE	28.05	0.63	
43204	74-98-6	PROPANE	44.09	2.91	
43205	115-07-1	PROPENE	42.08	1.69	
43206	74-86-2	ACETYLENE	26.04	0.32	
43212	106-97-8	N-BUTANE	58.12	1.00	
43214	75-28-5	ISO-BUTANE	58.12	0.43	
43215	115-11-7	ISOBUTYLENE	56.10	0.02	
43216	624-64-6	T-2-BUTENE	56.11	0.13	
43217	590-18-1	CIS-2-BUTENE	56.11	0.02	
43220	109-66-0	N-PENTANE	72.15	0.13	
43224	109-67-1	1-PENTENE	70.13	0.01	
43226	646-04-8	TRANS-2-PENTENE	70.13	0.01	
43228	513-35-9	2-METHYL-2-BUTENE	70.13	0.01	
43230	96-14-0	3-METHYL PENTANE	86.17	0.02	
43231	110-54-3	HEXANE	86.17	0.02	
43232	142-82-5	HEPTANE	100.20	0.02	
43233	111-65-9	OCTANE	114.23	0.02	
43235	111-84-2	NONANE	128.25	0.01	
43238	124-18-5	N-DECANE	142.28	0.01	
43241	1120-21-4	N-UNDECANE	156.31	0.01	
43242	287-92-3	CYCLOPENTANE	70.14	0.02	
43247	108-08-7	2,4-DIMETHYLPENTANE	100.20	0.01	
43248	110-82-7	CYCLOHEXANE	84.16	0.01	
43261	108-87-2	METHYLCYCLOHEXANE	98.21	0.02	
43262	96-37-7	METHYLCYCLOPENTANE	84.16	0.04	
43264		HEPTENE	98.18	0.01	
43265	111-66-0	OCTENE	112.21	0.01	
43269	124-11-8	1-NONENE	126.24	0.01	

VOC Profile Speciation Report - continued (profile 1001)

Saroad	CAS Number	Name	Spec_MW	Spec_WT	Peak
43291	75-83-2	2,2-DIMETHYLBUTANE	86.17	0.01	
43295	589-34-4	3-METHYLHEXANE	100.20	0.01	
43298		3-METHYLHEPTANE	114.23	0.02	
43502	50-00-0	FORMALDEHYDE	30.03	0.81	
43503	75-07-0	ACETALDEHYDE	44.05	0.03	
43511	78-84-2	ISOBUTYRALDEHYDE	72.11	0.02	
45102	1330-20-7	ISOMERS OF XYLENE	106.16	0.02	
45109		C3/C4/C5 ALKYLBENZENES	134.21	0.01	
45110		C10 AROMATIC	134.22	0.01	
45201	71-43-2	BENZENE	78.11	0.11	
45202	108-88-3	TOLUENE	92.13	0.04	
45203	100-41-4	ETHYLBENZENE	106.16	0.01	
45204	95-47-6	O-XYLENE	106.16	0.01	
45205	108-38-3	M-XYLENE	106.16	0.01	
45207	108-67-8	1,3,5-TRIMETHYLBENZENE	120.19	0.02	
45208	95-63-6	1,2,4-TRIMETHYLBENZENE	120.19	0.01	
45211	611-14-3	O-ETHYLTOLUENE	120.19	0.01	
45212	620-14-4	M-ETHYLTOLUENE	120.19	0.01	
45225	526-73-8	1,2,3-TRIMETHYLBENZENE	120.19	0.01	
98040	763-29-1	2-METHYL-1-PENTENE	84.16	0.02	
TOTAL				100.00	

3.3 CARBON BLACK PRODUCTION

Carbon black is produced by the reaction of a hydrocarbon fuel such as oil or gas with a limited supply of combustion air at temperatures in excess of 2,000°F. The unburned carbon is collected as an extremely fine black fluffy particle, 10 to 500 nm in diameter. The principal uses of carbon black are as a reinforcing agent in rubber compounds (especially tires) and as a black pigment in printing inks, surface coatings, paper and plastics. The major process to manufacture carbon black is the oil furnace process. Emission sources include the main process vent, the dryer vent, the pneumatic transport system vent, the vacuum cleanup system vent, and fugitive sources.

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```
VOC Profile Speciation Report
--------------------------------------------------------------------------------
Profile Name   : Chemical Manufacturing - Carbon Black Production
Profile Number : 1002
Data Quality   : D
--------------------------------------------------------------------------------
Control Device : Uncontrolled
Reference(s)   : 9
Data Source    : Profile was developed from emissions data that was an
                 average of six sampling runs at a representative plant.

SCC Assignments: 30100504

--------------------------------------------------------------------------------
Saroad      CAS Number       Name                           Spec_MW   Spec_WT   Peak
--------------------------------------------------------------------------------
43201          74-82-8       METHANE                          16.04     22.40
43203          74-85-1       ETHYLENE                         28.05      1.40
43204          74-98-6       PROPANE                          44.09      0.20
43206          74-86-2       ACETYLENE                        26.04     40.10
43212         106-97-8       N-BUTANE                         58.12      0.20
43214          75-28-5       ISO-BUTANE                       58.12      0.10
43933         433-58-1       CARBONYL SULFIDE                 60.08      8.90
43934          75-15-0       CARBON SULFIDE                   76.13     26.70
--------------------------------------------------------------------------------
TOTAL                                                                  100.00
================================================================================
```

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3.4 PAINT MANUFACTURING

Paint manufacture involves the dispersion of a colored oil or pigment, usually in an oil or resin, followed by the addition of an organic solvent for viscosity adjustment. Only the physical processes of weighing, mixing, grinding, tinting, thinning, and packaging take place. No chemical reactions are involved. These processes take place at room temperature in large mixing tanks. The primary factors affecting VOC emissions from paint manufacture are types of solvents used and mixing temperature.

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```
VOC Profile Speciation Report
--------------------------------------------------------------------------------
Profile Name   : Paint Manufacture - Blending Kettle
Profile Number : 1094
Data Quality   : D
--------------------------------------------------------------------------------
Control Device : Uncontrolled
Reference(s)   : 52
Data Source    : Seven test runs were conducted to sample the exit vent
                 the blending kettle.  Analytical method and sampling
                 method are not reported.

SCC Assignments: 30101401

--------------------------------------------------------------------------------
Saroad       CAS Number       Name                           Spec_MW   Spec_WT   Peak
--------------------------------------------------------------------------------
43552          78-93-3        METHYL ETHYL KETONE              72.10     19.35
45202         108-88-3        TOLUENE                          92.13     80.65
--------------------------------------------------------------------------------
TOTAL                                                                 100.00
================================================================================
```

3.5 VARNISH MANUFACTURE

Processes involved in varnish manufacturing include mixing, blending, and heating. Varnish is cooked in open or enclosed gas-fired kettles. Cooking temperatures and times range from 93-340°C and 4-16 hours, respectively.

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```
VOC Profile Speciation Report
--------------------------------------------------------------------------------
Profile Name   : Varnish Manufacturing - Bodying Oil
Profile Number : 0066
Data Quality   : D
--------------------------------------------------------------------------------
Control Device : Uncontrolled
Reference(s)   : 61
Data Source    : Information based on engineering evaluation of survey
                 data.

SCC Assignments: 30101501

--------------------------------------------------------------------------------
Saroad      CAS Number      Name                          Spec_MW  Spec_WT  Peak
--------------------------------------------------------------------------------
43367        111-46-6       GLYCOL ETHER                   106.14     3.00
43551         67-64-1       ACETONE                         58.08    38.70
43552         78-93-3       METHYL ETHYL KETONE             72.10    41.60
43560        108-10-1       METHYL ISOBUTYL KETONE         100.16    16.70
--------------------------------------------------------------------------------
TOTAL                                                              100.00
================================================================================
```

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3.6 PLASTICS PRODUCTION

The manufacture of most resins or plastics begins with the polymerization or linking of the basic monomer, usually a gas or liquid, into high molecular weight noncrystalline solids. The manufacture of the basic monomer is not considered part of the plastics industry; it is usually accomplished at a chemical or petroleum plant. The manufacture of most plastics involves an enclosed reaction or polymerization step, a drying step, and a final treating and forming step. Treatment of the resin after polymerization varies with the proposed use. The major VOC emission sources in plastics manufacturing are the emissions of raw materials or monomers, emissions of solvents or other volatile liquids during the reaction, and emissions of solvents during storage and handling of thinned resins.

```
VOC Profile Speciation Report
---------------------------------------------------------------------------------------
Profile Name   : Manufacturing - Plastics - Polypropylene
Profile Number : 0068
Data Quality   : C
---------------------------------------------------------------------------------------
Control Device : Uncontrolled
Reference(s)   : 59, 60
Data Source    : Information provided by polypropylene manufacturers,
                 engineering evaluation of literature data.

SCC Assignments: 30101802

---------------------------------------------------------------------------------------
Saroad       CAS Number       Name                                 Spec_MW  Spec_WT  Peak
---------------------------------------------------------------------------------------
43205          115-07-1       PROPENE                                42.08   100.00
---------------------------------------------------------------------------------------
TOTAL                                                                        100.00
=======================================================================================
VOC Profile Speciation Report
------------------------------------------------------------------------------------
Profile Name   : Plastics Production - Polystyrene
Profile Number : 1004
Data Quality   : D
------------------------------------------------------------------------------------
Control Device : Not reported
Reference(s)   : 1
Data Source    : Engineering judgement based on survey of plants
                 in South Coast Air Basin and literature review
                 conducted by California Air Resources Board (CARB).

SCC Assignments: 30101817

------------------------------------------------------------------------------------
Saroad      CAS Number      Name                              Spec_MW   Spec_WT   Peak
------------------------------------------------------------------------------------
45203         100-41-4      ETHYLBENZENE                      106.16      10.00
45220         100-42-5      STYRENE                           104.14      90.00
------------------------------------------------------------------------------------
TOTAL                                                                   100.00
====================================================================================
VOC Profile Speciation Report
--------------------------------------------------------------------------------
Profile Name   : Plastics Production - Polyester Resins
Profile Number : 1005
Data Quality   : E
--------------------------------------------------------------------------------
Control Device : Not reported
Reference(s)   : 1
Data Source    : Engineering judgement.

SCC Assignments: 30101837

--------------------------------------------------------------------------------
Saroad      CAS Number      Name                              Spec_MW  Spec_WT  Peak
--------------------------------------------------------------------------------
45220         100-42-5      STYRENE                           104.14    100.00
--------------------------------------------------------------------------------
TOTAL                                                                   100.00
================================================================================
--------------------------------------------------------------------------------
Profile Name   : Plastics Production - Acrylonitrile-Butadiene-Styrene Resin
Profile Number : 1009
Data Quality   : E
--------------------------------------------------------------------------------
Control Device : Not reported
Reference(s)   : 1
Data Source    : Engineering judgement.

SCC Assignments: 30101849

--------------------------------------------------------------------------------
Saroad      CAS Number      Name                              Spec_MW  Spec_WT  Peak
--------------------------------------------------------------------------------
43704         107-13-1     ACRYLONITRILE                        53.06    60.00
45220         100-42-5     STYRENE                             104.14    40.00
--------------------------------------------------------------------------------
TOTAL                                                                   100.00
================================================================================
VOC Profile Speciation Report
-------------------------------------------------------------------------------
Profile Name   : Plastics Production - Polyvinyl Chlorides and Copolymers
Profile Number : 1091
Data Quality   : C
-------------------------------------------------------------------------------
Control Device : Scrubber
Reference(s)   : 50
Data Source    : Source emission tests for vinyl chloride of two latex
                 incinerators.  Three test runs were performed on each.

SCC Assignments: 30101801

-------------------------------------------------------------------------------
Saroad      CAS Number      Name                          Spec_MW  Spec_WT  Peak
-------------------------------------------------------------------------------
43860         75-01-4       VINYL CHLORIDE                  62.50   100.00
-------------------------------------------------------------------------------
TOTAL                                                               100.00
===============================================================================
```

3.7 PRINTING INK MANUFACTURE

The major types of printing ink are: letterpress, lithographic, flexographic, and rotogravure inks. The ink types vary greatly in composition. The processes involved in printing ink manufacture include: (1) cooking the vehicle and addition of dyes, (2) grinding the pigment into the vehicle, and (3) replacing water in the wet pigment pulp with an ink vehicle. The ink vehicle is cooked to 93-315°C for 8-12 hours. Pigment and vehicle mixing is done with dough mixers or in agitated tanks. Horizontal or vertical mills are used for grinding.

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VOC Profile Speciation Report

Profile Name : Printing Ink - Cooking
Profile Number : 0072
Data Quality : D

Control Device : Uncontrolled
Reference(s) : 62
Data Source : Engineering evaluation of organic emissions control strategy report.

SCC Assignments: 30102001

Saroad	CAS Number	Name	Spec_MW	Spec_WT	Peak
43118	64475-85-0	MINERAL SPIRITS	114.00	25.50	
43248	110-82-7	CYCLOHEXANE	84.16	5.00	
43301	67-56-1	METHYL ALCOHOL	32.04	5.00	
43302	64-17-5	ETHYL ALCOHOL	46.07	2.50	
43304	67-63-0	ISO-PROPYL ALCOHOL	60.09	38.00	
43305	71-36-3	N-BUTYL ALCOHOL	74.12	3.00	
43435	138-22-7	N-BUTYL ACETATE	116.16	4.00	
43551	67-64-1	ACETONE	58.08	5.50	
43552	78-93-3	METHYL ETHYL KETONE	72.10	5.00	
45106		ISOMERS OF DIETHYLBENZENE	134.21	3.50	
45203	100-41-4	ETHYLBENZENE	106.16	3.00	
TOTAL				100.00	

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3.8 SYNTHETIC ORGANIC FIBER PRODUCTION

Semi-synthetic fibers result when natural polymeric materials such as cellulose are dissolved or dispersed and then spun into fine filaments. True synthetic fibers result from addition and other polymerization reactions that form long chain molecules. The manufacture of true synthetic fibers begins with the preparation of extremely long, chain-like molecules. The polymer is then spun in one of four ways: melt spinning, dry spinning, wet spinning, or core spinning. Emissions may occur during these processes or during drying of the finished fiber.

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```
VOC Profile Speciation Report
--------------------------------------------------------------------------------
Profile Name   : Synthetic Organic Fiber Production - Nylon Batch Production Process
Profile Number : 1092
Data Quality   : D
--------------------------------------------------------------------------------
Control Device : Not reported
Reference(s)   : 51
Data Source    : The evaporator vessel vent stack was sampled during
                 three separate evaporation cycles with one
                 hexamethylenediamine emissions run performed during
                 each cycle.  Total organic carbon as carbon cations
                 were recalculated using a molecular weight ratio for
                 conversion to hexamethylenediamine.

SCC Assignments: 30102401

--------------------------------------------------------------------------------
Saroad     CAS Number      Name                            Spec_MW   Spec_WT   Peak
--------------------------------------------------------------------------------
43776        124-09-4      HEXAMETHYLENEDIAMINE             116.20    100.00
--------------------------------------------------------------------------------
TOTAL                                                                100.00
================================================================================
```

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3.9 ORGANIC CHEMICAL MANUFACTURING

The organic chemical industry is a large and diverse industry producing a large number of intermediate and end-product organic chemicals. A large proportion of the emissions from the chemical manufacturing industry occur as organic vapors. Organic particulate emissions may also be generated in some processes. The emissions typically contain raw material (including impurities) used and intermediate and final products formed during the manufacturing process. Emissions sources include storage and handling emissions, reactor process emissions, separation process emissions, fugitive emissions, and secondary emissions (e.g., from waste treatment).

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```
VOC Profile Speciation Report
--------------------------------------------------------------------------------
Profile Name   : General Pesticides
Profile Number : 0076
Data Quality   : C
--------------------------------------------------------------------------------
Control Device : Uncontrolled
Reference(s)   : 60, 63
Data Source    : Engineering evaluation of information contained
                 within State of California pesticide use reports.

SCC Assignments: 30103311, 30103312

--------------------------------------------------------------------------------
Saroad      CAS Number     Name                              Spec_MW   Spec_WT   Peak
--------------------------------------------------------------------------------
43105                      ISOMERS OF HEXANE                   86.17      8.10
43115                      C-7 CYCLOPARAFFINS                  98.19     15.40
43116                      C-8 CYCLOPARAFFINS                 112.23      1.60
43118       64475-85-0     MINERAL SPIRITS                    114.00     15.00
43122                      ISOMERS OF PENTANE                  72.15      3.10
43204          74-98-6     PROPANE                             44.09      1.80
43212         106-97-8     N-BUTANE                            58.12      4.40
43214          75-28-5     ISO-BUTANE                          58.12      1.40
43220         109-66-0     N-PENTANE                           72.15      3.20
43231         110-54-3     HEXANE                              86.17      3.70
43805          74-95-3     METHYLENE BROMIDE                  173.85     10.00
45102        1330-20-7     ISOMERS OF XYLENE                  106.16     15.00
45201          71-43-2     BENZENE                             78.11     12.30
45202         108-88-3     TOLUENE                             92.13      5.00
--------------------------------------------------------------------------------
TOTAL                                                                   100.00
================================================================================
VOC Profile Speciation Report
------------------------------------------------------------------------------------
Profile Name   : Ethylene Dichloride - Direct Chlorination
Profile Number : 0078
Data Quality   : C
------------------------------------------------------------------------------------
Control Device : Uncontrolled
Reference(s)   : 64
Data Source    : Information obtained from ethylene dichloride storage
                 facility.

SCC Assignments: 30112502, 30112599

------------------------------------------------------------------------------------
Saroad      CAS Number      Name                              Spec_MW   Spec_WT   Peak
------------------------------------------------------------------------------------
43815        107-06-2       ETHYLENE DICHLORIDE                  99.00    100.00
------------------------------------------------------------------------------------
TOTAL                                                                    100.00
====================================================================================
```

VOC Profile Speciation Report

Profile Name : Chemical Manufacturing - Flares
Profile Number : 0079
Data Quality : D

Control Device : Uncontrolled
Reference(s) : 60
Data Source : Engineering evaluation of composite survey data.

SCC Assignments: 30190099

Saroad	CAS Number	Name	Spec_MW	Spec_WT	Peak
43120		ISOMERS OF BUTENE	56.10	8.90	
43203	74-85-1	ETHYLENE	28.05	21.60	
43205	115-07-1	PROPENE	42.08	9.00	
43206	74-86-2	ACETYLENE	26.04	1.00	
43213	106-98-9	BUTENE	56.10	4.10	
43248	110-82-7	CYCLOHEXANE	84.16	1.80	
43301	67-56-1	METHYL ALCOHOL	32.04	5.40	
43302	64-17-5	ETHYL ALCOHOL	46.07	1.40	
43304	67-63-0	ISO-PROPYL ALCOHOL	60.09	2.50	
43305	71-36-3	N-BUTYL ALCOHOL	74.12	0.50	
43438	140-88-5	ETHYL ACRYLATE	100.11	0.80	
43502	50-00-0	FORMALDEHYDE	30.03	1.70	
43503	75-07-0	ACETALDEHYDE	44.05	0.70	
43510	123-72-8	BUTYRALDEHYDE	72.12	0.80	
43601	75-21-8	ETHYLENE OXIDE	44.05	4.60	
43602	75-56-9	PROPYLENE OXIDE	58.08	1.40	
43704	107-13-1	ACRYLONITRILE	53.06	3.00	
43801	74-87-3	METHYL CHLORIDE	50.49	0.90	
43812	75-00-3	ETHYL CHLORIDE	64.52	7.20	
43860	75-01-4	VINYL CHLORIDE	62.50	0.60	
45102	1330-20-7	ISOMERS OF XYLENE	106.16	1.30	
45201	71-43-2	BENZENE	78.11	10.00	
45202	108-88-3	TOLUENE	92.13	4.10	
45220	100-42-5	STYRENE	104.14	3.40	
45300	108-95-2	PHENOL	94.11	2.00	
45401		XYLENE BASE ACIDS	230.00	1.30	
TOTAL				100.00	

```
VOC Profile Speciation Report
-------------------------------------------------------------------------------
Profile Name   : Phthalic Anhydride - o-Xylene Oxidation - Main Process Stream
Profile Number : 1006
Data Quality   : E
-------------------------------------------------------------------------------
Control Device : Not reported
Reference(s)   : 1
Data Source    : Engineering judgement based on review of literature
                 data (see references listed on page 113 of
                 Reference 1).

SCC Assignments: 30101901

-------------------------------------------------------------------------------
Saroad       CAS Number       Name                           Spec_MW  Spec_WT  Peak
-------------------------------------------------------------------------------
43603          108-31-6       MALEIC ANHYDRIDE                 98.06    20.00
45204           95-47-6       O-XYLENE                        106.16    10.00
45402           65-85-0       BENZOIC ACID                    122.13    10.00
45601           85-44-9       PHTHALIC ANHYDRIDE              148.12    60.00
-------------------------------------------------------------------------------
TOTAL                                                                  100.00
===============================================================================
VOC Profile Speciation Report
-------------------------------------------------------------------------------
Profile Name   : Terephthalic Acid/Dimethyl Terephthalate Crystallization, Separation and Drying Vent
Profile Number : 1023
Data Quality   : D
-------------------------------------------------------------------------------
Control Device : Scrubber
Reference(s)   : 29
Data Source    : Composite profile developed using data from two
                 emission sources (weighted according to emission
                 rates); each data set is based on engineering
                 calculations.

SCC Assignments: 30103103

-------------------------------------------------------------------------------
Saroad      CAS Number      Name                           Spec_MW   Spec_WT   Peak
-------------------------------------------------------------------------------
43301         67-56-1       METHYL ALCOHOL                   32.04     99.97
45450        120-61-6       DIMETHYL TEREPHTHALATE          194.19      0.03
-------------------------------------------------------------------------------
TOTAL                                                                 100.00
===============================================================================
VOC Profile Speciation Report
--------------------------------------------------------------------------------
Profile Name   : Terephthalic Acid/Dimethyl Terephthalate Distillation and Recovery Vent
Profile Number : 1024
Data Quality   : D
--------------------------------------------------------------------------------
Control Device : Condenser
Reference(s)   : 29
Data Source    : Composite profile developed using data from four
                 emission sources (weighted according to emission
                 rates); one data set is based on vent analysis, and the
                 others are based on engineering calculations.

SCC Assignments: 30103104

--------------------------------------------------------------------------------
Saroad      CAS Number      Name                              Spec_MW   Spec_WT   Peak
--------------------------------------------------------------------------------
43301          67-56-1      METHYL ALCOHOL                      32.04      7.77
43350         115-10-6      DIMETHYLETHER                       46.07     66.64
43432          79-20-9      METHYLACETATE                       74.08     16.33
43503          75-07-0      ACETALDEHYDE                        44.05      8.43
45204          95-47-6      O-XYLENE                           106.16      0.83
--------------------------------------------------------------------------------
TOTAL                                                                    100.00
================================================================================
VOC Profile Speciation Report
-----------------------------------------------------------------------------
Profile Name   : Terephthalic Acid/Dimethyl Terephthalate Product Transfer Vent
Profile Number : 1025
Data Quality   : E
-----------------------------------------------------------------------------
Control Device : Not reported
Reference(s)   : 29
Data Source    : Information based on engineering calculations from one
                 emission source.

SCC Assignments: 30103105

-----------------------------------------------------------------------------
Saroad       CAS Number       Name                          Spec_MW   Spec_WT   Peak
-----------------------------------------------------------------------------
43201           74-82-8       METHANE                         16.04     17.23
43404           64-19-7       ACETIC ACID                     60.05      1.35
43432           79-20-9       METHYLACETATE                   74.08     75.00
43503           75-07-0       ACETALDEHYDE                    44.05      1.69
45206          106-42-3       P-XYLENE                       106.16      3.38
45403          100-21-0       TEREPHTHALIC ACID              166.14      1.35
-----------------------------------------------------------------------------
TOTAL                                                                  100.00
=============================================================================
VOC Profile Speciation Report
--------------------------------------------------------------------------------
Profile Name   : Ketone Production - Methyl Ethyl Ketone (MEK)
Profile Number : 1027
Data Quality   : E
--------------------------------------------------------------------------------
Control Device : Uncontrolled
Reference(s)   : 39
Data Source    : Information based on design calculations from one
                 emission source.

SCC Assignments: 30109105

--------------------------------------------------------------------------------
Saroad      CAS Number      Name                              Spec_MW  Spec_WT  Peak
--------------------------------------------------------------------------------
43314         78-92-2       S-BUTYL ALCOHOL                    74.12   100.00
--------------------------------------------------------------------------------
TOTAL                                                                  100.00
================================================================================
VOC Profile Speciation Report
------------------------------------------------------------------------------------
Profile Name   : Acetone - Light Ends Distillation Vent
Profile Number : 1028
Data Quality   : D
------------------------------------------------------------------------------------
Control Device : Scrubber
Reference(s)   : 21
Data Source    : Information based on vent analysis from one emission
                 source.

SCC Assignments: 30109153

------------------------------------------------------------------------------------
Saroad      CAS Number      Name                                 Spec_MW  Spec_WT  Peak
------------------------------------------------------------------------------------
43204          74-98-6      PROPANE                                44.09    13.00
43205         115-07-1      PROPENE                                42.08    24.00
43212         106-97-8      N-BUTANE                               58.12    33.00
43213         106-98-9      BUTENE                                 56.10    20.00
43551          67-64-1      ACETONE                                58.08    10.00
------------------------------------------------------------------------------------
TOTAL                                                                      100.00
====================================================================================
VOC Profile Speciation Report
--------------------------------------------------------------------------------
Profile Name   : Acetone - Acetone Finishing Column
Profile Number : 1029
Data Quality   : D
--------------------------------------------------------------------------------
Control Device : Condenser
Reference(s)   : 13
Data Source    : Composite profile developed using data based on
                 engineering calculations from two emission sources
                 (weighted according to emission rates).

SCC Assignments: 30109154

--------------------------------------------------------------------------------
Saroad       CAS Number        Name                           Spec_MW  Spec_WT  Peak
--------------------------------------------------------------------------------
43503          75-07-0         ACETALDEHYDE                     44.05    38.03
43551          67-64-1         ACETONE                          58.08    61.97
--------------------------------------------------------------------------------
TOTAL                                                                  100.00
================================================================================
VOC Profile Speciation Report
------------------------------------------------------------------------------
Profile Name   : Aldehydes Production - Formaldehyde - Absorber Vent
Profile Number : 1030
Data Quality   : D
------------------------------------------------------------------------------
Control Device : Scrubber
Reference(s)   : 41
Data Source    : Composition data based on vent analysis from one
                 emission source.

SCC Assignments: 30112005

------------------------------------------------------------------------------
Saroad      CAS Number       Name                             Spec_MW  Spec_WT  Peak
------------------------------------------------------------------------------
43201          74-82-8       METHANE                            16.04     4.28
43301          67-56-1       METHYL ALCOHOL                     32.04     7.43
43430         107-31-3       METHYL FORMATE                     60.05    63.43
43457         109-87-5       METHYLAL                           76.11    24.86
------------------------------------------------------------------------------
TOTAL                                                                   100.00
==============================================================================
VOC Profile Speciation Report
-------------------------------------------------------------------------------
Profile Name   : Aldehydes Production - Acrolein - Distillation System
Profile Number : 1032
Data Quality   : E
-------------------------------------------------------------------------------
Control Device : Uncontrolled (sent to flare)
Reference(s)   : 34
Data Source    : Information based on material balance from one
                 emission source.

SCC Assignments: 30112033

-------------------------------------------------------------------------------
Saroad       CAS Number       Name                          Spec_MW  Spec_WT  Peak
-------------------------------------------------------------------------------
43503          75-07-0        ACETALDEHYDE                    44.05    19.58
43505         107-02-8        ACROLEIN                        56.07    80.42
-------------------------------------------------------------------------------
TOTAL                                                                 100.00
===============================================================================
VOC Profile Speciation Report
-------------------------------------------------------------------------------
Profile Name   : Aldehydes Production - Acrolein - Reactor Blowoff Gas
Profile Number : 1033
Data Quality   : D
-------------------------------------------------------------------------------
Control Device : Uncontrolled (sent to incinerator)
Peference(s)   : 34
Data Source    : Information based on analysis and material balance from
                 one emission source.

SCC Assignments: 30112099

-------------------------------------------------------------------------------
Saroad       CAS Number       Name                           Spec_MW  Spec_WT  Peak
-------------------------------------------------------------------------------
43204          74-98-6        PROPANE                          44.09    24.70
43205         115-07-1        PROPENE                          42.08    37.65
43505         107-02-8        ACROLEIN                         56.07    37.65
-------------------------------------------------------------------------------
TOTAL                                                                  100.00
===============================================================================
VOC Profile Speciation Report
--------------------------------------------------------------------------------
Profile Name   : Chloroprene - Butadiene Dryer
Profile Number : 1034
Data Quality   : D
--------------------------------------------------------------------------------
Control Device : Uncontrolled
Reference(s)   : 10
Data Source    : Information based on analytical data from one emission
                 source.

SCC Assignments:

--------------------------------------------------------------------------------
Saroad      CAS Number      Name                            Spec_MW  Spec_WT  Peak
--------------------------------------------------------------------------------
43218         106-99-0      1,3-BUTADIENE                     54.09   100.00
--------------------------------------------------------------------------------
TOTAL                                                                100.00
================================================================================
VOC Profile Speciation Report
-------------------------------------------------------------------------------- ----
Profile Name   : Chloroprene - Chloroprene Stripper and Brine Stripper
Profile Number : 1035
Data Quality   : E
-------------------------------------------------------------------------------------
Control Device : Condenser
Reference(s)   : 11
Data Source    : Information based on engineering calculations from one
                 emission source.

SCC Assignments: 30112406, 30112407

-------------------------------------------------------------------------------------
Saroad       CAS Number       Name                              Spec_MW  Spec_WT  Peak
-------------------------------------------------------------------------------------
43862          126-99-8       CHLOROPRENE                        88.54    100.00
-------------------------------------------------------------------------------------
TOTAL                                                                     100.00
=====================================================================================
VOC Profile Speciation Report
--------------------------------------------------------------------------------
Profile Name   : Organohalogens - Ethylene Dichloride - Ethylene Dichloride Via Direct Chlorination - Distil
Profile Number : 1037
Data Quality   : C
--------------------------------------------------------------------------------
Control Device : Uncontrolled
Reference(s)   : 36, 37
Data Source    : Composite profile developed using data based on GC
                 analysis from two emission sources (weighted according
                 to emissions rate).

SCC Assignments: 30112506

--------------------------------------------------------------------------------
Saroad       CAS Number        Name                              Spec_MW   Spec_WT   Peak
--------------------------------------------------------------------------------
43201           74-82-8        METHANE                             16.04     18.35
43202           74-84-0        ETHANE                              30.07      3.29
43203           74-85-1        ETHYLENE                            28.05     60.60
43812           75-00-3        ETHYL CHLORIDE                      64.52      6.62
43815          107-06-2        ETHYLENE DICHLORIDE                 99.00     11.10
43860           75-01-4        VINYL CHLORIDE                      62.50      0.04
--------------------------------------------------------------------------------
TOTAL                                                                       100.00
================================================================================
VOC Profile Speciation Report
----------------------------------------------------------------------------------------
Profile Name   : Organohalogens Production - Ethylene Dichloride - Ethylene Dichloride Via Oxychlorination
Profile Number : 1038
Data Quality   : D
----------------------------------------------------------------------------------------
Control Device : Uncontrolled
Reference(s)   : 36
Data Source    : Information based on routine GC and wet chemistry
                 analyses from one emission source.

SCC Assignments: 30112501

----------------------------------------------------------------------------------------
Saroad       CAS Number       Name                                Spec_MW   Spec_WT   Peak
----------------------------------------------------------------------------------------
43201           74-82-8       METHANE                               16.04      3.73
43202           74-84-0       ETHANE                                30.07      0.44
43203           74-85-1       ETHYLENE                              28.05     10.38
43812           75-00-3       ETHYL CHLORIDE                        64.52     43.40
43815          107-06-2       ETHYLENE DICHLORIDE                   99.00     36.75
43860           75-01-4       VINYL CHLORIDE                        62.50      1.21
99999                         UNIDENTIFIED                          86.00      4.09
----------------------------------------------------------------------------------------
TOTAL                                                                        100.00
========================================================================================
VOC Profile Speciation Report
------------------------------------------------------------------------------
Profile Name   : Organohalogens Production - Ethylene Dichloride - Caustic Scrubber
Profile Number : 1039
Data Quality   : C
------------------------------------------------------------------------------
Control Device : Scrubber
Reference(s)   : 36, 37
Data Source    : Composite profile developed using data based on GC
                 analysis from two emission sources (weighted according
                 to emissions rate).

SCC Assignments: 30112504

------------------------------------------------------------------------------
Saroad       CAS Number       Name                          Spec_MW   Spec_WT   Peak
------------------------------------------------------------------------------
43201           74-82-8       METHANE                         16.04     12.94
43202           74-84-0       ETHANE                          30.07      1.71
43203           74-85-1       ETHYLENE                        28.05     30.50
43812           75-00-3       ETHYL CHLORIDE                  64.52     27.30
43815          107-06-2       ETHYLENE DICHLORIDE             99.00     18.19
43860           75-01-4       VINYL CHLORIDE                  62.50      4.13
99999                         UNIDENTIFIED                    86.00      5.23
------------------------------------------------------------------------------
TOTAL                                                                 100.00
==============================================================================
VOC Profile Speciation Report
--------------------------------------------------------------------------------
Profile Name   : Fluorocarbons/Chlorofluorocarbons - General
Profile Number : 1040
Data Quality   : D
--------------------------------------------------------------------------------
Control Device : Condenser/uncontrolled
Reference(s)   : 27, 42
Data Source    : Composite profile developed using data from seven
                 emission sources (weighted according to emissions
                 rate); each data set is based on operating and design
                 calculations.

SCC Assignments: 30112701

--------------------------------------------------------------------------------
Saroad      CAS Number      Name                           Spec_MW   Spec_WT   Peak
--------------------------------------------------------------------------------
43811         75-69-4       TRICHLOROFLUOROMETHANE          137.38      0.01
43821         76-13-1       TRICHLOROTRIFLUOROETHANE        187.38      5.94
43823         75-71-8       DICHLORODIFLUOROMETHANE         120.91      0.06
43839         75-73-0       TETRAFLUOROMETHANE               88.01     10.02
43840         75-45-6       CHLORODIFLUOROMETHANE            86.47     13.91
43841         76-14-2       DICHLOROTETRAFLUORETHANE        170.92      4.29
43842         76-15-3       CHLOROPENTAFLUOROETHANE         154.47      4.76
43843         76-16-4       HEXAFLUOROETHANE                138.01     38.99
43844         75-46-7       TRIFLUOROMETHANE                 70.01     22.01
--------------------------------------------------------------------------------
TOTAL                                                                99.99
================================================================================
VOC Profile Speciation Report
--------------------------------------------------------------------------------
Profile Name   : Fluorocarbons/Chlorofluorocarbons - Distillation Column
Profile Number : 1041
Data Quality   : D
--------------------------------------------------------------------------------
Control Device : Uncontrolled/vacuum jet
Reference(s)   : 27
Data Source    : Composite profile developed using data from two
                 emission sources(weighted according to emissions rate);
                 based on vent analysis, and the other on engineering
                 calculations.

SCC Assignments: 30112702

--------------------------------------------------------------------------------
Saroad      CAS Number      Name                            Spec_MW   Spec_WT   Peak
--------------------------------------------------------------------------------
43804          56-23-5      CARBON TETRACHLORIDE             153.84      0.12
43811          75-69-4      TRICHLOROFLUOROMETHANE           137.38      0.24
43823          75-71-8      DICHLORODIFLUOROMETHANE          120.91      0.21
43843          76-16-4      HEXAFLUOROETHANE                 138.01     79.54
43844          75-46-7      TRIFLUOROMETHANE                  70.01      3.98
43845          75-72-9      CHLOROTRIFLUOROMETHANE           104.46     15.91
--------------------------------------------------------------------------------
TOTAL                                                                 100.00
================================================================================
VOC Profile Speciation Report
--------------------------------------------------------------------------------
Profile Name   : Fluorocarbons/Chlorofluorocarbons - Fugitive Emissions - General
Profile Number : 1042
Data Quality   : E
--------------------------------------------------------------------------------
Control Device : Not reported
Reference(s)   : 27
Data Source    : Information from one emission source.

SCC Assignments: 30112780

--------------------------------------------------------------------------------
Saroad      CAS Number     Name                              Spec_MW   Spec_WT   Peak
--------------------------------------------------------------------------------
43811         75-69-4      TRICHLOROFLUOROMETHANE            137.38     35.00
43823         75-71-8      DICHLORODIFLUOROMETHANE           120.91     65.00
--------------------------------------------------------------------------------
TOTAL                                                                  100.00
================================================================================
VOC Profile Speciation Report
-------------------------------------------------------------------------------
Profile Name   : Acrylic Acid - Quench Absorber
Profile Number : 1043
Data Quality   : E
-------------------------------------------------------------------------------
Control Device : Uncontrolled
Reference(s)   : 28
Data Source    : Information based on design material balance from
                 one emission source.

SCC Assignments:

-------------------------------------------------------------------------------
Saroad       CAS Number       Name                         Spec_MW  Spec_WT  Peak
-------------------------------------------------------------------------------
43204            74-98-6      PROPANE                        44.09    63.12
43205           115-07-1      PROPENE                        42.08    14.67
43404            64-19-7      ACETIC ACID                    60.05     1.17
43407            79-10-7      ACRYLIC ACID                   72.06    15.09
43438           140-88-5      ETHYL ACRYLATE                100.11     1.01
43503            75-07-0      ACETALDEHYDE                   44.05     0.08
43505           107-02-8      ACROLEIN                       56.07     3.77
43551            67-64-1      ACETONE                        58.08     1.09
-------------------------------------------------------------------------------
TOTAL                                                                100.00
===============================================================================
VOC Profile Speciation Report
--------------------------------------------------------------------------------
Profile Name   : Organic Acids Production - Formic Acid
Profile Number : 1044
Data Quality   : D
--------------------------------------------------------------------------------
Control Device : Condenser
Reference(s)   : 25
Data Source    : Composite profile developed using data based on
                 engineering estimates from six emission sources
                 (weighted according to emission rates).

SCC Assignments: 30113299

--------------------------------------------------------------------------------
Saroad       CAS Number      Name                             Spec_MW   Spec_WT   Peak
--------------------------------------------------------------------------------
43403          64-18-6       FORMIC ACID                        46.03      6.67
43404          64-19-7       ACETIC ACID                        60.05     33.33
43552          78-93-3       METHYL ETHYL KETONE                72.10     60.00
--------------------------------------------------------------------------------
TOTAL                                                                   100.00
================================================================================
VOC Profile Speciation Report
--------------------------------------------------------------------------------
Profile Name   : Organic Acids Production - Acetic Anhydride - Distillation Column Vent
Profile Number : 1045
Data Quality   : D
--------------------------------------------------------------------------------
Control Device : Uncontrolled
Reference(s)   : 33
Data Source    : Information based on typical vent analysis from one
                 emission source.

SCC Assignments: 30113303

--------------------------------------------------------------------------------
Saroad      CAS Number      Name                          Spec_MW   Spec_WT   Peak
--------------------------------------------------------------------------------
43404          64-19-7      ACETIC ACID                     60.05     58.00
43551          67-64-1      ACETONE                         58.08     34.00
43604         108-24-7      ACETIC ANHYDRIDE               102.09      6.00
45201          71-43-2      BENZENE                         78.11      2.00
--------------------------------------------------------------------------------
TOTAL                                                               100.00
================================================================================
VOC Profile Speciation Report
-------------------------------------------------- --------- -----------------
Profile Name   : Esters Production - Acrylates - Ethyl Acrylate
Profile Number : 1046
Data Quality   : C
------------------------------------------------------------------------------
Control Device : Uncontrolled
Reference(s)   : 31
Data Source    : Composite profile developed from two profiles each
                 based on measurement (weighted according to emissions
                 rate).

SCC Assignments:

------------------------------------------------------------------------------
Saroad      CAS Number      Name                             Spec_MW  Spec_WT  Peak
------------------------------------------------------------------------------
43201          74-82-8      METHANE                            16.04     4.88
43302          64-17-5      ETHYL ALCOHOL                      46.07     7.88
43351          60-29-7      ETHYL ETHER                        74.12    37.88
43438         140-88-5      ETHYL ACRYLATE                    100.11    20.19
99933                       DENATURANT                         32.04    29.16
------------------------------------------------------------------------------
TOTAL                                                                   99.99
==============================================================================
VOC Profile Speciation Report
------------------------------------------------------------------------------ ---------- -----
Profile Name   : Esters Production - Butyl Acrylate
Profile Number : 1047
Data Quality   : E
-----------------------------------------------------------------------------------------------
Control Device : Uncontrolled
Reference(s)   : 28
Data Source    : Information based on material balance from one emission
                 source.

SCC Assignments: 30113710

-----------------------------------------------------------------------------------------------
Saroad      CAS Number      Name                              Spec_MW    Spec_WT    Peak
-----------------------------------------------------------------------------------------------
43305          71-36-3      N-BUTYL ALCOHOL                     74.12      70.38
43438         140-88-5      ETHYL ACRYLATE                     100.11      14.81
43440         141-32-2      BUTYL ACRYLATE                     128.17      14.81
-----------------------------------------------------------------------------------------------
TOTAL                                                                     100.00
===============================================================================================
VOC Profile Speciation Report
--------------------------------------------------------------------------------
Profile Name   : Cumene Production - Cumene Distillation System Vent
Profile Number : 1048
Data Quality   : C
--------------------------------------------------------------------------------
Control Device : Uncontrolled
Reference(s)   : 8
Data Source    : Composite profile developed using data based on gas
                 analyses from two emission sources (weighted according
                 to emissions rate).

SCC Assignments: 30115606

--------------------------------------------------------------------------------
Saroad     CAS Number      Name                               Spec_MW   Spec_WT   Peak
--------------------------------------------------------------------------------
43202        74-84-0       ETHANE                               30.07      1.19
43204        74-98-6       PROPANE                              44.09     53.34
43214        75-28-5       ISO-BUTANE                           58.12      0.89
43245       592-41-6       1-HEXENE                             84.16      5.47
45201        71-43-2       BENZENE                              78.11     38.47
45203       100-41-4       ETHYLBENZENE                        106.16      0.61
45210        98-82-8       CUMENE (ISOPROPYL BENZENE)          120.20      0.03
--------------------------------------------------------------------------------
TOTAL                                                                   100.00
================================================================================
```

VOC Profile Speciation Report

Profile Name : Cyclohexane - General
Profile Number : 1049
Data Quality : D

Control Device : Not reported
Reference(s) : 3
Data Source : Information based on vent stream analysis from one emission source.

SCC Assignments: 30115701

Saroad	CAS Number	Name	Spec_MW	Spec_WT	Peak
43201	74-82-8	METHANE	16.04	16.07	
43202	74-84-0	ETHANE	30.07	28.93	
43204	74-98-6	PROPANE	44.09	32.32	
43212	106-97-8	N-BUTANE	58.12	14.29	
43214	75-28-5	ISO-BUTANE	58.12	2.32	
43220	109-66-0	N-PENTANE	72.15	3.04	
43221	78-78-4	ISO PENTANE	72.15	3.04	
TOTAL				100.01	

```
VOC Profile Speciation Report
-------------------------------------------------------------------------------------
Profile Name   : Cyclohexanone/Cyclohexanol - Phenol Hydrogenation Process - Distillation Vent
Profile Number : 1050
Data Quality   : E
-------------------------------------------------------------------------------------
Control Device : Condenser
Reference(s)   : 12
Data Source    : Information based on engineering calculations from one
                 emission source.

SCC Assignments: 30115822

-------------------------------------------------------------------------------------
Saroad      CAS Number      Name                              Spec_MW   Spec_WT   Peak
-------------------------------------------------------------------------------------
43248         110-82-7      CYCLOHEXANE                         84.16     49.86
43317         108-93-0      CYCLOHEXANOL                       100.16     10.26
43561         108-94-1      CYCLOHEXANONE                       98.15     10.26
45201          71-43-2      BENZENE                             78.11     25.07
45501         100-52-7      BENZALDEHYDE                       106.13      4.56
-------------------------------------------------------------------------------------
TOTAL                                                                    100.01
=====================================================================================
VOC Profile Speciation Report
--------------------------------------------------------------------------------
Profile Name   : Vinyl Acetate - Inert Gas Purge Vent
Profile Number : 1051
Data Quality   : C
--------------------------------------------------------------------------------
Control Device : Condenser/uncontrolled
Reference(s)   : 22, 23
Data Source    : Composite profile developed from data based on vent
                 analyses from two emission sources (weighted according
                 to emission rates).

SCC Assignments: 30116702

--------------------------------------------------------------------------------
Saroad      CAS Number      Name                               Spec_MW  Spec_WT  Peak
--------------------------------------------------------------------------------
43203          74-85-1      ETHYLENE                             28.05    74.97
43404          64-19-7      ACETIC ACID                          60.05     4.18
43453         108-05-4      VINYL ACETATE                        86.09    16.68
99999                       UNIDENTIFIED                         86.00     4.17
--------------------------------------------------------------------------------
TOTAL                                                                    100.00
================================================================================
VOC Profile Speciation Report
------------------------------------------------------------------------------
Profile Name   : Vinyl Acetate - CO2 Purge Vent
Profile Number : 1052
Data Quality   : C
------------------------------------------------------------------------------
Control Device : Uncontrolled
Reference(s)   : 22, 23
Data Source    : Information based on vent analyses from two emission
                 sources.

SCC Assignments: 30116703

------------------------------------------------------------------------------
Saroad      CAS Number      Name                          Spec_MW  Spec_WT  Peak
------------------------------------------------------------------------------
43203         74-85-1       ETHYLENE                        28.05   100.00
------------------------------------------------------------------------------
TOTAL                                                              100.00
==============================================================================
VOC Profile Speciation Report
--------------------------------------------------------------------------------
Profile Name   : Vinyl Acetate - Inhibitor Mix Tank Discharge
Profile Number : 1053
Data Quality   : E
--------------------------------------------------------------------------------
Control Device : Not reported
Reference(s)   : 23
Data Source    : Information from one emission source based on
                 engineering calculations.

SCC Assignments: 30116704

--------------------------------------------------------------------------------
Saroad      CAS Number      Name                           Spec_MW  Spec_WT  Peak
--------------------------------------------------------------------------------
43453         108-05-4      VINYL ACETATE                    86.09   100.00
--------------------------------------------------------------------------------
TOTAL                                                                100.00
================================================================================
VOC Profile Speciation Report
--------------------------------------------------------------------------------
Profile Name   : Vinyl Acetate - Refining Column Vent
Profile Number : 1054
Data Quality   : E
--------------------------------------------------------------------------------
Control Device : Uncontrolled
Reference(s)   : 24
Data Source    : Not reported

SCC Assignments: 30116799

--------------------------------------------------------------------------------
Saroad      CAS Number      Name                                Spec_MW  Spec_WT  Peak
--------------------------------------------------------------------------------
43453        108-05-4       VINYL ACETATE                         86.09    46.00
43503         75-07-0       ACETALDEHYDE                          44.05    54.00
--------------------------------------------------------------------------------
TOTAL                                                                     100.00
================================================================================
VOC Profile Speciation Report
-------------------------------------------------------------------------------
Profile Name   : Ethylene Oxide - Oxygen Oxidation Process Reactor - CO2 Purge Vent
Profile Number : 1056
Data Quality   : D
-------------------------------------------------------------------------------
Control Device : Uncontrolled
Reference(s)   : 35, 40
Data Source    : Composite profile developed using data reported from
                 three plants.

SCC Assignments: 30117410

-------------------------------------------------------------------------------
Saroad      CAS Number      Name                          Spec_MW  Spec_WT  Peak
-------------------------------------------------------------------------------
43203         74-85-1       ETHYLENE                        28.05   100.00
-------------------------------------------------------------------------------
TOTAL                                                               100.00
===============================================================================
VOC Profile Speciation Report
-------------------------------------------------------------------------------
Profile Name   : Ethylene Oxide - Oxygen Oxidation Process Reactor - Argon Purge Vent
Profile Number : 1057
Data Quality   : D
-------------------------------------------------------------------------------
Control Device : Uncontrolled
Reference(s)   : 35, 40
Data Source    : Composite profile developed from information from three
                 emission sources (weighted according to emission rate).

SCC Assignments: 30117411

-------------------------------------------------------------------------------
Saroad      CAS Number      Name                            Spec_MW   Spec_WT   Peak
-------------------------------------------------------------------------------
43201          74-82-8      METHANE                           16.04     52.30
43202          74-84-0      ETHANE                            30.07      0.28
43203          74-85-1      ETHYLENE                          28.05     47.42
-------------------------------------------------------------------------------
TOTAL                                                                  100.00
===============================================================================
VOC Profile Speciation Report
--------------------------------------------------------------------------------
Profile Name   : Ethylene Oxide - Stripper Purge Vent
Profile Number : 1058
Data Quality   : E
--------------------------------------------------------------------------------
Control Device : Not reported
Reference(s)   : 35
Data Source    : Information based on one emission source.

SCC Assignments: 30117421

--------------------------------------------------------------------------------
Saroad       CAS Number       Name                              Spec_MW   Spec_WT   Peak
--------------------------------------------------------------------------------
43201           74-82-8       METHANE                             16.04     24.38
43203           74-85-1       ETHYLENE                            28.05     75.62
--------------------------------------------------------------------------------
TOTAL                                                                      100.00
================================================================================
VOC Profile Speciation Report
----------------------------------------------------------------------------------
Profile Name   : Methyl Methacrylate (MMA) - Hydrolysis Reactor, MMA and Light Ends Distillation Unit
Profile Number : 1059
Data Quality   : D
----------------------------------------------------------------------------------
Control Device : Uncontrolled
Reference(s)   : 30
Data Source    : Information based on measurements from one emission
                 source.

SCC Assignments: 30119010, 30119012

----------------------------------------------------------------------------------
Saroad       CAS Number       Name                                Spec_MW   Spec_WT   Peak
----------------------------------------------------------------------------------
43201           74-82-8       METHANE                               16.04      1.79
43301           67-56-1       METHYL ALCOHOL                        32.04      4.55
43350          115-10-6       DIMETHYLETHER                         46.07     88.88
43430          107-31-3       METHYL FORMATE                        60.05      1.67
43441           80-62-6       METHYL METHACRYLATE                  100.13      0.72
43551           67-64-1       ACETONE                               58.08      2.39
----------------------------------------------------------------------------------
TOTAL                                                                        100.00
==================================================================================
```

VOC Profile Speciation Report

Profile Name : Methyl Methacrylate (MMA) - Acid Distillation and MMA Purification
Profile Number : 1060
Data Quality : E

Control Device : Condenser
Reference(s) : 30
Data Source : Information based on one emission source.

SCC Assignments: 30119013, 30119014

Saroad	CAS Number	Name	Spec_MW	Spec_WT	Peak
43301	67-56-1	METHYL ALCOHOL	32.04	59.21	
43350	115-10-6	DIMETHYLETHER	46.07	13.16	
43441	80-62-6	METHYL METHACRYLATE	100.13	27.63	
TOTAL				100.00	

```
VOC Profile Speciation Report
-------------------------------------------------------------------------------------
Profile Name   : Nitrobenzene - Reactor and Separator Vent - Washer and Neutralizer Vent
Profile Number : 1061
Data Quality   : E
-------------------------------------------------------------------------------------
Control Device : Not reported
Reference(s)   : 14
Data Source    : Information based on design calculations from one
                 emission source.

SCC Assignments: 30119502, 30119504

-------------------------------------------------------------------------------------
Saroad       CAS Number       Name                              Spec_MW   Spec_WT   Peak
-------------------------------------------------------------------------------------
45201          71-43-2        BENZENE                             78.11     99.71
45702          98-95-3        NITROBENZENE                       123.11      0.29
-------------------------------------------------------------------------------------
TOTAL                                                                      100.00
=====================================================================================
VOC Profile Speciation Report
--------------------------------------------------------------------------------
Profile Name   : Benzene
Profile Number : 1062
Data Quality   : D
--------------------------------------------------------------------------------
Control Device : Absorber
Reference(s)   : 2, 18, 43
Data Source    : Information based on engineering calculations from
                 four emission sources representing four SCC's.

SCC Assignments: 30110002, 30119505, 30121104, 30121123

--------------------------------------------------------------------------------
Saroad      CAS Number     Name                              Spec_MW  Spec_WT  Peak
--------------------------------------------------------------------------------
45201         71-43-2      BENZENE                            78.11   100.00
--------------------------------------------------------------------------------
TOTAL                                                                 100.00
================================================================================
```

VOC Profile Speciation Report

Profile Name : Olefins Production - Ethylene - Compressor Lube Oil Vent
Profile Number : 1064
Data Quality : C

Control Device : Not reported
Reference(s) : 44
Data Source : Composite profiles developed using data from five emission sources determined by helium tracer sampling and mass spectrometer analysis (weighted according to emission rates).

SCC Assignments: 30119745

Saroad	CAS Number	Name	Spec_MW	Spec_WT	Peak
43201	74-82-8	METHANE	16.04	12.46	
43202	74-84-0	ETHANE	30.07	37.75	
43204	74-98-6	PROPANE	44.09	23.86	
43212	106-97-8	N-BUTANE	58.12	15.01	
43220	109-66-0	N-PENTANE	72.15	8.07	
43301	67-56-1	METHYL ALCOHOL	32.04	0.27	
45201	71-43-2	BENZENE	78.11	2.07	
45202	108-88-3	TOLUENE	92.13	0.51	
TOTAL				100.00	

```
VOC Profile Speciation Report
--------------------------------------------------------------------------------
Profile Name   : Propylene Oxide - Chlorohydronation Process - General
Profile Number : 1065
Data Quality   : D
--------------------------------------------------------------------------------
Control Device : Scrubber
Reference(s)   : 38
Data Source    : Information based on emissions data from two process
                 units. Data for the last three species derived from
                 dividing 16.50 by 3.

SCC Assignments: 30120502

--------------------------------------------------------------------------------
Saroad      CAS Number      Name                                Spec_MW   Spec_WT   Peak
--------------------------------------------------------------------------------
43201          74-82-8      METHANE                               16.04      0.51
43202          74-84-0      ETHANE                                30.07      5.02
43204          74-98-6      PROPANE                               44.09     77.97
43205         115-07-1      PROPENE                               42.08      5.50
43838       26638-19-7      PROPYLENE DICHLORIDE                 112.99      5.50
99999                       UNIDENTIFIED                          86.00      5.50
--------------------------------------------------------------------------------
TOTAL                                                                     100.00
================================================================================
VOC Profile Speciation Report
--------------------------------------------------------------------------------
Profile Name   : Styrene - General
Profile Number : 1066
Data Quality   : D
--------------------------------------------------------------------------------
Control Device : Not reported
Reference(s)   : 46,47
Data Source    : Composite profile developed using data based on typical
                 composition and design information from two emission
                 sources.

SCC Assignments: 30120601

--------------------------------------------------------------------------------
Saroad      CAS Number      Name                              Spec_MW   Spec_WT   Peak
--------------------------------------------------------------------------------
43201          74-82-8      METHANE                             16.04     21.73
43202          74-84-0      ETHANE                              30.07      6.53
43203          74-85-1      ETHYLENE                            28.05     24.39
45201          71-43-2      BENZENE                             78.11     23.28
45202         108-88-3      TOLUENE                             92.13      9.21
45203         100-41-4      ETHYLBENZENE                       106.16      9.94
45220         100-42-5      STYRENE                            104.14      4.91
--------------------------------------------------------------------------------
TOTAL                                                                     99.99
================================================================================
VOC Profile Speciation Report
- -----------------------------------------------------------------------------
Profile Name   : Styrene - Benzene Recycle
Profile Number : 1067
Data Quality   : D
-------------------------------------------------------------------------------
Control Device : Condenser
Reference(s)   : 47
Data Source    : Information from one emission source based on vent
                 analysis.

SCC Assignments: 30120602

-------------------------------------------------------------------------------
Saroad      CAS Number      Name                          Spec_MW   Spec_WT   Peak
-------------------------------------------------------------------------------
43201          74-82-8      METHANE                        16.04     34.72
43202          74-84-0      ETHANE                         30.07      6.10
43204          74-98-6      PROPANE                        44.09      0.75
43212         106-97-8      N-BUTANE                       58.12     21.64
43220         109-66-0      N-PENTANE                      72.15      1.22
43224         109-67-1      1-PENTENE                      70.13      1.19
45201          71-43-2      BENZENE                        78.11     34.38
-------------------------------------------------------------------------------
TOTAL                                                              100.00
===============================================================================
VOC Profile Speciation Report
------------- ----------------------------------------------------------------
Profile Name   : Styrene - Styrene Purification
Profile Number : 1068
Data Quality   : E
------------------------------------------------------------------------------
Control Device : Condenser
Reference(s)   : 46
Data Source    : Information from one emission source based on
                 engineering calculations.

SCC Assignments: 30120603

------------------------------------------------------------------------------
Saroad       CAS Number      Name                         Spec_MW   Spec_WT   Peak
------------------------------------------------------------------------------
45201          71-43-2       BENZENE                        78.11     41.46
45202         108-88-3       TOLUENE                        92.13     19.51
45203         100-41-4       ETHYLBENZENE                  106.16     19.51
45220         100-42-5       STYRENE                       104.14     19.51
------------------------------------------------------------------------------
TOTAL                                                                 99.99
==============================================================================
VOC Profile Speciation Report
------------------------------------------------------------------------------------
Profile Name   : Alcohols Production - Methanol - Purge Gas Vent
Profile Number : 1070
Data Quality   : C
------------------------------------------------------------------------------------
Control Device : Uncontrolled
Reference(s)   : 17
Data Source    : Composite profile developed using data based on mass
                 spectrometer analysis from two emission sources
                 (weighted according to emission rates).

SCC Assignments: 30125002

------------------------------------------------------------------------------------
Saroad       CAS Number      Name                                Spec_MW   Spec_WT   Peak
------------------------------------------------------------------------------------
43201           74-82-8      METHANE                               16.04     86.71
43301           67-56-1      METHYL ALCOHOL                        32.04      1.54
43350          115-10-6      DIMETHYLETHER                         46.07     11.75
------------------------------------------------------------------------------------
TOTAL                                                                       100.00
====================================================================================
VOC Profile Speciation Report
--------------------------------------------------------------------------------
Profile Name   : Alcohols Production - Methanol - Distillation Vent
Profile Number : 1071
Data Quality   : D
--------------------------------------------------------------------------------
Control Device : Condenser
Reference(s)   : 17
Data Source    : Information from one emission source based on mass
                 spectrometer analysis.

SCC Assignments: 30125003

--------------------------------------------------------------------------------
Saroad      CAS Number      Name                              Spec_MW  Spec_WT   Peak
--------------------------------------------------------------------------------
43301          67-56-1      METHYL ALCOHOL                      32.04     1.73
43350         115-10-6      DIMETHYLETHER                       46.07    98.27
--------------------------------------------------------------------------------
TOTAL                                                                   100.00
================================================================================
VOC Profile Speciation Report
---------------------------------------------------------------------------------
Profile Name   : Chlorobenzene - Tail Gas Scrubber
Profile Number : 1072
Data Quality   : D
---------------------------------------------------------------------------------
Control Device : Scrubber
Reference(s)   : 4, 6, 7
Data Source    : Composite profile developed using data from three
                 emission sources (weighted according to emission
                 rates); one set of data is based on analysis of stack
                 samples and the other two on engineering calculations.

SCC Assignments: 30130101

---------------------------------------------------------------------------------
Saroad       CAS Number     Name                            Spec_MW  Spec_WT  Peak
---------------------------------------------------------------------------------
45201           71-43-2     BENZENE                           78.11    56.95
45801          108-90-7     CHLOROBENZENE                    112.56    37.19
45808         2531-22-6     DICHLOROBENZENES                 147.01     5.86
---------------------------------------------------------------------------------
TOTAL                                                                 100.00
=================================================================================
VOC Profile Speciation Report
--------------------------------------------------------------------------------
Profile Name   : Chlorobenzene - Benzene Drying Distillation
Profile Number : 1073
Data Quality   : D
--------------------------------------------------------------------------------
Control Device : Condenser
Reference(s)   : 4, 7
Data Source    : Composite profile developed using data based on
                 engineering caluclations from two emission sources
                 (weighted according to emission rates).

SCC Assignments: 30130102

--------------------------------------------------------------------------------
Saroad      CAS Number      Name                              Spec_MW  Spec_WT  Peak
--------------------------------------------------------------------------------
45201          71-43-2      BENZENE                             78.11    95.04
45801         108-90-7      CHLOROBENZENE                      112.56     4.96
--------------------------------------------------------------------------------
TOTAL                                                                  100.00
================================================================================
```

VOC Profile Speciation Report

Profile Name : Monochlorobenzene
Profile Number : 1074
Data Quality : D

Control Device : Condenser/not reported
Reference(s) : 5, 7, 50
Data Source : Information from two emission sources representing SCC 301-301-05 and measurement data from one emission source representing SCC 490-003-02.

SCC Assignments: 30130105, 49000302

Saroad	CAS Number	Name	Spec_MW	Spec_WT	Peak
45801	108-90-7	CHLOROBENZENE	112.56	100.00	
TOTAL				100.00	

```
VOC Profile Speciation Report
--------------------------------------------------------------------------------
Profile Name   : Chlorobenzene - Vacuum System Vent
Profile Number : 1075
Data Quality   : D
--------------------------------------------------------------------------------
Control Device : Steam jet
Reference(s)   : 4
Data Source    : Composite profile developed using data from three
                 emission sources (weighted according to emissions
                 rate).  Two sets of data are based on measurement and
                 one on engineering calculations.

SCC Assignments: 30130106

--------------------------------------------------------------------------------
Saroad      CAS Number      Name                              Spec_MW   Spec_WT   Peak
--------------------------------------------------------------------------------
45201          71-43-2      BENZENE                             78.11     19.62
45801         108-90-7      CHLOROBENZENE                      112.56     56.83
45805          95-50-1      O-DICHLOROBENZENE                  147.01      4.96
45806         541-73-1      M-DICHLOROBENZENE                  147.01      0.63
45807         106-46-7      P-DICHLOROBENZENE                  147.01     17.96
--------------------------------------------------------------------------------
TOTAL                                                                    100.00
================================================================================
VOC Profile Speciation Report
-----------------------------------------------------------------------------------
Profile Name   : Chlorobenzene - Dichlorobenzene Crystallization
Profile Number : 1076
Data Quality   : E
-----------------------------------------------------------------------------------
Control Device : Carbon bed
Reference(s)   : 7
Data Source    : Information from one emission source based on
                 engineering estimate.

SCC Assignments: 30130107

-----------------------------------------------------------------------------------
Saroad      CAS Number      Name                              Spec_MW   Spec_WT   Peak
-----------------------------------------------------------------------------------
45807         106-46-7      P-DICHLOROBENZENE                 147.01     100.00
-----------------------------------------------------------------------------------
TOTAL                                                                    100.00
===================================================================================
VOC Profile Speciation Report
--------------------------------------------------------------------------------
Profile Name   : Chlorobenzene - Dichlorobenzene Crystal Handling / Loading
Profile Number : 1077
Data Quality   : E
--------------------------------------------------------------------------------
Control Device : Uncontrolled
Reference(s)   : 4
Data Source    : Information based on engineering calculations for one
                 emission source.

SCC Assignments: 30130108

--------------------------------------------------------------------------------
Saroad      CAS Number      Name                              Spec_MW  Spec_WT   Peak
--------------------------------------------------------------------------------
45201          71-43-2      BENZENE                             78.11     0.11
45801         108-90-7      CHLOROBENZENE                      112.56     0.13
45805          95-50-1      O-DICHLOROBENZENE                  147.01     5.31
45807         106-46-7      P-DICHLOROBENZENE                  147.01    94.45
--------------------------------------------------------------------------------
TOTAL                                                                   100.00
================================================================================
VOC Profile Speciation Report
--------------------------------------------------------------------------------
Profile Name   : Fluorocarbon Manufacturing - CF 12/11
Profile Number : 1090
Data Quality   : D
--------------------------------------------------------------------------------
Control Device : Uncontrolled
Reference(s)   : 27
Data Source    : Information from one plant based on engineering
                 calculations on two emission sources.

SCC Assignments: 30112720

--------------------------------------------------------------------------------
Saroad       CAS Number       Name                           Spec_MW   Spec_WT   Peak
--------------------------------------------------------------------------------
43804          56-23-5        CARBON TETRACHLORIDE            153.84     19.90
43811          75-69-4        TRICHLOROFLUOROMETHANE          137.38     40.76
43823          75-71-8        DICHLORODIFLUOROMETHANE         120.91     39.34
--------------------------------------------------------------------------------
TOTAL                                                                 100.00
================================================================================
VOC Profile Speciation Report
---------------------------------------------------------------------------------------
Profile Name   : Fluorocarbon Manufacturing - CF 23/22
Profile Number : 1093
Data Quality   : D
---------------------------------------------------------------------------------------
Control Device : Condenser
Reference(s)   : 42
Data Source    : Information from one plant based on engineering
                 calculations on two emission sources.

SCC Assignments: 30112730

---------------------------------------------------------------------------------------
Saroad       CAS Number       Name                             Spec_MW   Spec_WT   Peak
---------------------------------------------------------------------------------------
43803           67-66-3       CHLOROFORM                        119.39      2.73
43840           75-45-6       CHLORODIFLUOROMETHANE              86.47     33.34
43844           75-46-7       TRIFLUOROMETHANE                   70.01     63.93
---------------------------------------------------------------------------------------
TOTAL                                                                     100.00
=======================================================================================
```

VOC Profile Speciation Report

Profile Name : ACETYLENE
Profile Number : 1120
Data Quality : E

Control Device : Controlled/Uncontrolled
Reference(s) : 76
Data Source : Engineering judgement.

SCC Assignments: 30114004, 30114005

Saroad	CAS Number	Name	Spec_MW	Spec_WT	Peak
43206	74-86-2	ACETYLENE	26.04	100.00	
TOTAL				100.00	

3.10 FOOD AND AGRICULTURE

This category includes farming operations and meat and crop processing. Processes involved in the production of food and agricultural products include harvesting, refinement, preservation, storage and handling, and packaging. Refinement processes can include cleaning, drying, grinding, mixing, and fermentation. Particulate emissions are the dominant emission type from this source category.

```
VOC Profile Speciation Report
-------------------------------------------- ----------------------------------------
Profile Name   : Fermentation Processes
Profile Number : 1188
Data Quality   : C
-------------------------------------------------------------------------------------
Control Device : Not reported
Reference(s)   : 88
Data Source    : Emissions data from four fermentation units in a
                 whiskey distillery analyzed by GC.

SCC Assignments: 30201002, 30201003, 30201004

-------------------------------------------------------------------------------------
Saroad       CAS Number      Name                                Spec_MW  Spec_WT  Peak
-------------------------------------------------------------------------------------
43302          64-17-5       ETHYL ALCOHOL                        46.07    99.56
43306          78-83-1       ISOBUTYL ALCOHOL                     74.12     0.03
43330         123-51-3       ISOAMYL ALCOHOL                      88.15     0.09
43433         141-78-6       ETHYL ACETATE                        88.10     0.32
-------------------------------------------------------------------------------------
TOTAL                                                                      100.00
=====================================================================================
```

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3.11 PRIMARY AND SECONDARY METAL PRODUCTION

Primary metal production involves many processes which basically produce metals in elemental form from unprocessed and impure ore. Secondary metal operations involve the cleaning, melting, refining, and pouring of metals recovered from scrap. Each process in primary and secondary metal production is a potential source of emissions.

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```
VOC Profile Speciation Report
-------------------------------------------------------------------------------
Profile Name   : By Product Coke Oven Stack Gas
Profile Number : 0011
Data Quality   : C
-------------------------------------------------------------------------------
Control Device : Uncontrolled
Reference(s)   : 58, 59
Data Source    : Composite profile based on test samples taken from
                 two different coke oven stacks and analyzed by GC/MS.

SCC Assignments: 30300302, 30300303, 30300304, 30300305, 30300306

-------------------------------------------------------------------------------
Saroad      CAS Number      Name                          Spec_MW  Spec_WT  Peak
-------------------------------------------------------------------------------
43201           74-82-8     METHANE                         16.04    45.30
43202           74-84-0     ETHANE                          30.07     8.00
43203           74-85-1     ETHYLENE                        28.05    27.70
43204           74-98-6     PROPANE                         44.09     0.50
43205          115-07-1     PROPENE                         42.08     1.90
43206           74-86-2     ACETYLENE                       26.04     1.20
43213          106-98-9     BUTENE                          56.10     0.10
43218          106-99-0     1,3-BUTADIENE                   54.09     0.50
45201           71-43-2     BENZENE                         78.11    14.10
45202          108-88-3     TOLUENE                         92.13     0.70
-------------------------------------------------------------------------------
TOTAL                                                              100.00
===============================================================================
VOC Profile Speciation Report
--------------------------------------------------------------------------------
Profile Name   : Blast Furnace Ore Charging and Agglomerate Charging
Profile Number : 0012
Data Quality   : C
--------------------------------------------------------------------------------
Control Device : Uncontrolled
Reference(s)   : 59
Data Source    : Information based on one grab sample from blast furnace
                 exhaust.

SCC Assignments: 30300801, 30300802

--------------------------------------------------------------------------------
Saroad      CAS Number     Name                                Spec_MW   Spec_WT   Peak
--------------------------------------------------------------------------------
43201       74-82-8        METHANE                               16.04     15.80
43822                      TRIMETHYLFLUOROSILANE                 92.00     84.20
--------------------------------------------------------------------------------
TOTAL                                                                     100.00
================================================================================
VOC Profile Speciation Report
--------------------------------------------------------------------------------
Profile Name   : Iron Sintering
Profile Number : 0013
Data Quality   : C
--------------------------------------------------------------------------------
Control Device : Uncontrolled
Reference(s)   : 59
Data Source    : Information based on one grab sample from sintering
                 plant.

SCC Assignments: 30300813

--------------------------------------------------------------------------------
Saroad      CAS Number       Name                             Spec_MW  Spec_WT  Peak
--------------------------------------------------------------------------------
43201          74-82-8       METHANE                            16.04    73.30
43202          74-84-0       ETHANE                             30.07     3.00
43203          74-85-1       ETHYLENE                           28.05     5.90
43205         115-07-1       PROPENE                            42.08     3.00
43206          74-86-2       ACETYLENE                          26.04    14.80
---------- ---------------------------------------------------------------------
TOTAL                                                                   100.00
================================================================================
```

VOC Profile Speciation Report

Profile Name : Open Hearth Furnace With Oxygen Lance
Profile Number : 0014
Data Quality : C

Control Device : Electrostatic Precipitator
Reference(s) : 59
Data Source : Information based on two samples at precipitator inlet and outlet.

SCC Assignments: 30300901

Saroad	CAS Number	Name	Spec_MW	Spec_WT	Peak
43231	110-54-3	HEXANE	86.17	7.00	
43232	142-82-5	HEPTANE	100.20	35.80	
43822		TRIMETHYLFLUOROSILANE	92.00	40.00	
45201	71-43-2	BENZENE	78.11	13.60	
45202	108-88-3	TOLUENE	92.13	3.60	
TOTAL				100.00	

```
VOC Profile Speciation Report
--------------------------------------------------------------------------------
Profile Name   : Basic Oxygen Furnace
Profile Number : 0016
Data Quality   : C
--------------------------------------------------------------------------------
Control Device : Electrostatic Precipitator
Reference(s)   : 59
Data Source    : Information based on one sample at precipitator outlet.

SCC Assignments: 30300913, 30300914

--------------------------------------------------------------------------------
Saroad      CAS Number      Name                              Spec_MW  Spec_WT  Peak
--------------------------------------------------------------------------------
43201         74-82-8       METHANE                             16.04    11.10
43204         74-98-6       PROPANE                             44.09    39.90
43822                       TRIMETHYLFLUOROSILANE               92.00    49.00
--------------------------------------------------------------------------------
TOTAL                                                                   100.00
================================================================================
VOC Profile Speciation Report
-------------------------------------------------------------------------------
Profile Name   : Secondary Aluminum - Pouring and Casting
Profile Number : 1036
Data Quality   : D
-------------------------------------------------------------------------------
Control Device : Not reported
Reference(s)   : 57
Data Source    : Information from a laboratory study where data were
                 collected using liquid and gas chromatography methods.

SCC Assignments: 30400114

-------------------------------------------------------------------------------
Saroad      CAS Number      Name                              Spec_MW  Spec_WT   Peak
-------------------------------------------------------------------------------
45701          62-53-3      ANILINE                             93.13    70.84
45730         101-68-8      METHYLENE(b)4-PHENYLISOCYANATE     250.27     0.03
46111         101-77-9      4,4-METHYLENE DIANILINE            198.17     0.01
46112         103-71-9      PHENYL ISOCYANATE                  119.13    23.61
46114         100-61-8      4-METHYLANILINE                    107.17     5.51
-------------------------------------------------------------------------------
TOTAL                                                                   100.00
===============================================================================
```

VOC Profile Speciation Report

Profile Name : Secondary Metal Production - Gray Iron Foundries - Pouring/Casting
Profile Number : 1089
Data Quality : B

Control Device : Not reported
Reference(s) : 49
Data Source : Exhaust gases from twelve binder systems and sand formulations were sampled by enclosed hood during the pouring of gray iron. Air grab samples were analyzed by GC; reagent bubblers were analyzed by ion specific electrodes, titration, GC, or spectrophotometric methods; sorbent tube samples were analyzed by GC.

SCC Assignments: 30400320

Saroad	CAS Number	Name	Spec_MW	Spec_WT	Peak
43502	50-00-0	FORMALDEHYDE	30.03	0.70	
43505	107-02-8	ACROLEIN	56.07	0.33	
43520		TOTAL C2-C5 ALDEHYDES	72.12	24.20	
45201	71-43-2	BENZENE	78.11	34.70	
45202	108-88-3	TOLUENE	92.13	14.10	
45204	95-47-6	O-XYLENE	106.16	5.50	
45205	108-38-3	M-XYLENE	106.16	6.50	
45300	108-95-2	PHENOL	94.11	6.40	
45604	98-00-0	FURFURYL ALCOHOL	98.10	0.07	
45740		TOTAL AROMATIC AMINES	93.13	7.42	
46701	91-12-3	NAPTHALENE	128.17	0.08	
TOTAL				100.00	

VOC Profile Speciation Report

Profile Name : Primary Aluminum Production
Profile Number : 1202
Data Quality : D

Control Device : Baghouse
Reference(s) : 95
Data Source : Average profile based on EPA Method 625 from a Soderberg primary aluminum plant. The unidentified species represents those pollutants detected below the detection limit.

SCC Assignments: 30300102, 30300103

Saroad	CAS Number	Name	Spec_MW	Spec_WT	Peak
43211	760-20-3	3-METHYL-1-PENTENE	84.16	0.00	(5)
43212	106-97-8	N-BUTANE	58.12	16.33	
43213	106-98-9	BUTENE	56.10	1.35	(1)
43214	75-28-5	ISO-BUTANE	58.12	7.23	
43215	115-11-7	ISOBUTYLENE	56.10	0.00	(1)
43216	624-64-6	T-2-BUTENE	56.11	1.60	(2)
43217	590-18-1	CIS-2-BUTENE	56.11	1.04	(3)
43220	109-66-0	N-PENTANE	72.15	3.33	
43221	78-78-4	ISO PENTANE	72.15	7.92	
43222	463-82-1	2,2 DIMETHYLPROPANE	72.17	0.00	(2)
43223	563-45-1	3-METHYL-1-BUTENE	70.13	0.19	
43224	109-67-1	1-PENTENE	70.13	0.32	(4)
43226	646-04-8	TRANS-2-PENTENE	70.13	0.68	
43227	627-20-3	CIS-2-PENTENE	70.13	0.34	
43228	513-35-9	2-METHYL-2-BUTENE	70.13	0.81	
43229	107-83-5	2-METHYLPENTANE	86.17	1.13	(6)
43230	96-14-0	3-METHYL PENTANE	86.17	0.58	
43231	110-54-3	HEXANE	86.17	0.45	(8)
43232	142-82-5	HEPTANE	100.20	0.18	
43234	563-78-0	2,3 DIMETHYL-1-BUTENE	84.16	0.00	(6)
43235	111-84-2	NONANE	128.25	0.02	
43238	124-18-5	N-DECANE	142.28	0.02	
43242	287-92-3	CYCLOPENTANE	70.14	0.24	(5)
43243	78-79-5	ISOPRENE	68.12	0.01	
43245	592-41-6	1-HEXENE	84.16	0.12	(7)
43247	108-08-7	2,4-DIMETHYLPENTANE	100.20	0.14	
43250	540-84-1	2,2,4-TRIMETHYLPENTANE	114.22	0.19	
43252	565-75-3	2,3,4-TRIMETHYLPENTANE	114.22	0.03	
43261	108-87-2	METHYLCYCLOHEXANE	98.21	0.07	
43262	96-37-7	METHYLCYCLOPENTANE	84.16	0.43	(9)
43263	591-76-4	2-METHYL HEXANE	100.20	0.00	(10)
43270	922-61-2	3-METHYL-T-2-PENTENE	84.16	0.00	(9)
43272	693-89-0	METHYLCYCLOPENTENE	82.14	0.27	(10)
43274	565-59-3	2,3 DIMETHYL PENTANE	100.20	0.00	(10)
43276	79-29-8	2,3 DIMETHYLBUTANE	86.17	0.31	
43277		2,4-DIMETHYLHEXANE	114.22	0.06	
43278	592-13-2	2,5-DIMETHYLHEXANE	114.22	0.00	
43279	760-21-4	2-ETHYL-1-BUTENE	84.16	0.00	
43280		2,3,3 TRIMETHYLPENTANE	114.22	0.05	

VOC Profile Speciation Report - continued (profile 1202)

Saroad	CAS Number	Name	Spec_MW	Spec_WT	Peak
43281	107-00-6	1-BUTYNE	54.09	0.00	
43282	503-17-3	2-BUTYNE	54.09	0.00	
43283		C-3-HEXENE	84.16	0.00	
43284	625-27-4	2-METHYL-2-PENTENE	84.16	0.18	
43285		2-HEXENE	84.16	0.07	
43286		DIMETHYLHEXENE	112.20	0.01	
43289		C6 OLEFINS	84.16	0.09	
43290		2,3 DIMETHYLHEXANE	114.22	0.00	
43291	75-83-2	2,2-DIMETHYLBUTANE	86.17	0.21	
43292	142-29-0	CYCLOPENTENE	68.11	0.10	
43295	589-34-4	3-METHYLHEXANE	100.20	0.19	
43296	592-27-8	2-METHYLHEPTANE	114.23	0.02	
43297	589-53-7	4-METHYLHEPTANE	114.23	0.03	
43298		3-METHYLHEPTANE	114.23	0.02	
43299		1-METHYLCYCLOHEXENE	96.17	0.00	
45110		C10 AROMATIC	134.22	0.06	
45201	71-43-2	BENZENE	78.11	0.50	
45202	108-88-3	TOLUENE	92.13	0.52	
45203	100-41-4	ETHYLBENZENE	106.16	0.14	
45204	95-47-6	O-XYLENE	106.16	0.08	
45205	108-38-3	M-XYLENE	106.16	0.00	
45206	106-42-3	P-XYLENE	106.16	0.15	
45207	108-67-8	1,3,5-TRIMETHYLBENZENE	120.19	0.11	
45208	95-63-6	1,2,4-TRIMETHYLBENZENE	120.19	0.08	
45209	103-65-1	N-PROPYLBENZENE	120.19	0.01	
45217	135-01-3	1,2 DIETHYLBENZENE	134.22	0.01	
45225	526-73-8	1,2,3-TRIMETHYLBENZENE	120.19	0.03	
45300	108-95-2	PHENOL	94.11	3.35	
46701	91-12-3	NAPTHALENE	128.17	5.75	
46705	208-96-8	ACENAPHTHYLENE	152.20	10.11	
46706	83-32-9	ACENAPHTHENE	154.21	0.61	
46707	86-73-7	FLUORENE	166.22	3.50	
46708	85-01-8	PHENANTHRENE	178.23	7.31	
46709	120-12-7	ANTHRACENE	178.23	7.51	
46710	206-44-0	FLUORANTHENE	202.26	3.85	
46713	129-00-0	PYRENE	202.26	2.80	
46715	218-01-9	CHRYSENE	228.29	0.14	
46716	56-55-3	BENZO (a) ANTHRACENE	228.30	0.16	
46719	50-32-8	BENZO (a) PYRENE	252.32	0.12	
90002		2,3,5-TRIMETHYLHEXANE	128.25	0.01	
90004		3,5 DIMETHYLHEPTANE	128.26	0.02	
90005		2,5 DIMETHYLHEPTANE	128.26	0.00	
90006		2,3 DIMETHYLHEPTANE	128.26	0.00	
98033		2,2,5-TRIMETHYLHEXANE	128.26	0.08	
98044	496-11-7	INDANE	118.18	0.01	
99911		3,4 DIMETHYLOCTANE	142.29	0.04	
99912		1-METHYL-3-ETHYLBENZENE	120.19	0.06	
99916		1-METHYL-3N-PROPYLBENZENE	134.22	0.01	
99917		1-METHYL-3-ISOPROPYLBENZENE	134.22	0.04	
99918		2-METHYLDECANE	156.32	0.03	
99999		UNIDENTIFIED	86.00	6.57	
TOTAL				100.13	

3.12 ASPHALT PRODUCTS

This category includes manufacture of asphalt roofing felts and shingles that involve saturating fiber media with hot asphalt by means of dipping and/or spraying. Preparation of the asphalt saturant (blowing) consists of oxidizing the asphalt by bubbling air through the liquid asphalt. Potential sources of emissions include spraying and dipping, air blowing, hot asphalt storage, and tar kettles. Hot-mix asphalt paving operations are also included in this category. A typical hot-mix paving plant consists of an oil- or gas-fired rotary dryer, a screening and classifying system, a weighing system for asphalt cement and aggregate, a mixer, and the necessary material handling equipment. Potential sources of emissions include the rotary dryer, asphalt-aggregate mixer, truck loading area, and asphalt oil storage.

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```
VOC Profile Speciation Report
------------------------------------------------------------------------------------
Profile Name   : Asphalt Roofing - Spraying
Profile Number : 0023
Data Quality   : D
------------------------------------------------------------------------------------
Control Device : Uncontrolled
Reference(s)   : 59
Data Source    : Information based on composite survey data and engi-
                 neering evaluation of literature data.

SCC Assignments: 30500112

------------------------------------------------------------------------------------
Saroad      CAS Number      Name                              Spec_MW   Spec_WT   Peak
------------------------------------------------------------------------------------
43105                       ISOMERS OF HEXANE                  86.17     12.00
43106                       ISOMERS OF HEPTANE                100.20     11.00
43107                       ISOMERS OF OCTANE                 114.23      1.00
43202          74-84-0      ETHANE                             30.07      1.00
43203          74-85-1      ETHYLENE                           28.05      2.00
43204          74-98-6      PROPANE                            44.09     13.00
43212         106-97-8      N-BUTANE                           58.12     18.00
43214          75-28-5      ISO-BUTANE                         58.12      8.00
43220         109-66-0      N-PENTANE                          72.15     18.00
43231         110-54-3      HEXANE                             86.17      2.00
43232         142-82-5      HEPTANE                           100.20     14.00
------------------------------------------------------------------------------------
TOTAL                                                                   100.00
====================================================================================
```

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```
VOC Profile Speciation Report
--------------------------------------------------------------------------------
Profile Name   : Asphalt Roofing Tar Kettle
Profile Number : 0024
Data Quality   : C
--------------------------------------------------------------------------------
Control Device : Uncontrolled
Reference(s)   : 59
Data Source    : Information based on one sample taken with gas bottle
                 and charcoal tubes.

SCC Assignments: 30500104

--------------------------------------------------------------------------------
Saroad       CAS Number       Name                          Spec_MW   Spec_WT   Peak
--------------------------------------------------------------------------------
43105                         ISOMERS OF HEXANE               86.17      3.40
43107                         ISOMERS OF OCTANE              114.23      7.40
43115                         C-7 CYCLOPARAFFINS              98.19      2.90
43116                         C-8 CYCLOPARAFFINS             112.23      0.40
43117                         C-9 CYCLOPARAFFINS             126.26      1.50
43121                         ISOMERS OF PENTENE              70.13      0.50
43122                         ISOMERS OF PENTANE              72.15      1.10
43201             74-82-8     METHANE                         16.04     21.30
43202             74-84-0     ETHANE                          30.07      5.40
43203             74-85-1     ETHYLENE                        28.05      0.30
43204             74-98-6     PROPANE                         44.09     10.20
43205            115-07-1     PROPENE                         42.08      2.00
43212            106-97-8     N-BUTANE                        58.12     11.60
43213            106-98-9     BUTENE                          56.10      7.00
43214             75-28-5     ISO-BUTANE                      58.12      0.70
43220            109-66-0     N-PENTANE                       72.15      6.30
43224            109-67-1     1-PENTENE                       70.13      3.20
43231            110-54-3     HEXANE                          86.17      4.90
43232            142-82-5     HEPTANE                        100.20      2.00
43233            111-65-9     OCTANE                         114.23      2.70
43242            287-92-3     CYCLOPENTANE                    70.14      2.50
45201             71-43-2     BENZENE                         78.11      0.80
45202            108-88-3     TOLUENE                         92.13      1.90
--------------------------------------------------------------------------------
TOTAL                                                                  100.00
================================================================================
VOC Profile Speciation Report
---------------------------------------------------------------------------------
Profile Name   : Asphaltic Concrete - Natural Gas Rotary Dryer
Profile Number : 0025
Data Quality   : D
---------------------------------------------------------------------------------
Control Device : Uncontrolled
Reference(s)   : 60
Data Source    : Information based on test data.

SCC Assignments: 30500201

---------------------------------------------------------------------------------
Saroad       CAS Number       Name                          Spec_MW   Spec_WT   Peak
---------------------------------------------------------------------------------
43105                         ISOMERS OF HEXANE               86.17      1.00
43122                         ISOMERS OF PENTANE              72.15      9.00
43201           74-82-8       METHANE                         16.04     56.00
43204           74-98-6       PROPANE                         44.09      4.00
43212          106-97-8       N-BUTANE                        58.12      9.00
43220          109-66-0       N-PENTANE                       72.15      6.00
43248          110-82-7       CYCLOHEXANE                     84.16      1.00
43502           50-00-0       FORMALDEHYDE                    30.03      8.00
45201           71-43-2       BENZENE                         78.11      4.00
45202          108-88-3       TOLUENE                         92.13      2.00
---------------------------------------------------------------------------------
TOTAL                                                                  100.00
=================================================================================
VOC Profile Speciation Report
--------------------------------------------------------------------------------
Profile Name   : Asphaltic Concrete - In Place Road Ashpalt
Profile Number : 0026
Data Quality   : B
--------------------------------------------------------------------------------
Control Device : Uncontrolled
Reference(s)   : 59
Data Source    : Information based on GC/MS laboratory test samples.

SCC Assignments: 30500202

--------------------------------------------------------------------------------
Saroad      CAS Number      Name                         Spec_MW   Spec_WT   Peak
--------------------------------------------------------------------------------
43105                       ISOMERS OF HEXANE             86.17      8.10
43115                       C-7 CYCLOPARAFFINS            98.19      3.70
43122                       ISOMERS OF PENTANE            72.15      5.70
43201         74-82-8       METHANE                       16.04     15.70
43202         74-84-0       ETHANE                        30.07      4.60
43203         74-85-1       ETHYLENE                      28.05      2.00
43204         74-98-6       PROPANE                       44.09      5.50
43205        115-07-1       PROPENE                       42.08      3.90
43212        106-97-8       N-BUTANE                      58.12     10.10
43213        106-98-9       BUTENE                        56.10      5.90
43214         75-28-5       ISO-BUTANE                    58.12     11.20
43220        109-66-0       N-PENTANE                     72.15      5.30
43231        110-54-3       HEXANE                        86.17      8.80
45201         71-43-2       BENZENE                       78.11      9.50
--------------------------------------------------------------------------------
TOTAL                                                              100.00
================================================================================
```

VOC Profile Speciation Report

Profile Name : Mineral Products - Asphaltic Concrete
Profile Number : 1007
Data Quality : C

Control Device : Uncontrolled
Reference(s) : 1
Data Source : A composite sample made up of equal amounts of two samples each of slow-cure asphalt was prepared and distilled to generate organic samples representative of emissions during application. Distillates were analyzed by GC and GC/MS.

SCC Assignments: 108, 30500203

Saroad	CAS Number	Name	Spec_MW	Spec_WT	Peak
43111		ISOMERS OF DODECANE	170.32	9.59	
43113		ISOMERS OF TETRADECANE	198.38	3.12	
43130		C5 SUBSTITUTED CYCLOHEXANE	154.30	4.16	
43131		C6 SUBSTITUTED CYCLOHEXANE	168.32	3.12	
43238	124-18-5	N-DECANE	142.28	2.87	
43241	1120-21-4	N-UNDECANE	156.31	7.78	
43255	112-40-3	N-DODECANE	170.33	18.56	
43467		C4 SUBSTITUTED CYCLOHEXANONE	154.26	2.38	
45107	25551-13-7	TRIMETHYLBENZENE	120.19	8.89	
45703		2,2 DICHLORONITROANILINE	207.02	3.94	
46701	91-12-3	NAPTHALENE	128.17	6.54	
46702		METHYL NAPHTHALENES	142.20	10.19	
46711		C2 ALKYL INDAN	146.23	11.21	
98063		N-PENTYLCYCLOHEXANE	154.30	2.04	
98083		TRIMETHYLDECENE	182.35	5.62	
TOTAL				100.01	

3.13 PETROLEUM INDUSTRY

The petroleum industry includes petroleum refining and natural gas processing. Petroleum refining involves the production of several fuels, oils, and feeds for the petrochemical industry from crude oil. Refining processes include distillation, conversion, treatment, and storage and handling processes. The most significant sources of emissions include transfer and handling operations, vacuum distillation, catalytic cracking, thermal cracking, boilers, and heaters. Natural gas processes include condensate removal and "sweetening."

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```
VOC Profile Speciation Report
---------------------------------------------------------------------------------
Profile Name   : Refinery Fluid Catalytic Cracker
Profile Number : 0029
Data Quality   : C
---------------------------------------------------------------------------------
Control Device : Uncontrolled
Reference(s)   : 59
Data Source    : Information based on GC/MS analysis of sampling train
                 catch taken with stack extension.

SCC Assignments: 30600201

---------------------------------------------------------------------------------
Saroad      CAS Number     Name                               Spec_MW   Spec_WT   Peak
---------------------------------------------------------------------------------
43105                      ISOMERS OF HEXANE                   86.17     13.00
43201         74-82-8      METHANE                             16.04     36.00
43502         50-00-0      FORMALDEHYDE                        30.03     51.00
---------------------------------------------------------------------------------
TOTAL                                                                   100.00
=================================================================================
```

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```
VOC Profile Speciation Report
----------------------------------------------------------------------------------
Profile Name   : Refinery Fugitive Emissions - Covered Drainage / Separation Pits
Profile Number : 0031
Data Quality   : C
----------------------------------------------------------------------------------
Control Device : Uncontrolled
Reference(s)   : 59
Data Source    : Information based on five separate refinery API
                 separators and process drain hydrocarbons emissions
                 tests.

SCC Assignments: 30600503, 30600504

----------------------------------------------------------------------------------
Saroad      CAS Number      Name                             Spec_MW   Spec_WT   Peak
----------------------------------------------------------------------------------
43105                       ISOMERS OF HEXANE                  86.17     12.20
43115                       C-7 CYCLOPARAFFINS                 98.19     16.90
43116                       C-8 CYCLOPARAFFINS                112.23      5.20
43122                       ISOMERS OF PENTANE                 72.15     10.10
43201          74-82-8      METHANE                            16.04      2.90
43202          74-84-0      ETHANE                             30.07      1.70
43204          74-98-6      PROPANE                            44.09      5.90
43212         106-97-8      N-BUTANE                           58.12     14.30
43214          75-28-5      ISO-BUTANE                         58.12      4.50
43220         109-66-0      N-PENTANE                          72.15     12.00
43231         110-54-3      HEXANE                             86.17     11.90
45201          71-43-2      BENZENE                            78.11      2.40
----------------------------------------------------------------------------------
TOTAL                                                                   100.00
==================================================================================
VOC Profile Speciation Report
--------------------------------------------------------------------------------
Profile Name   : Refinery Fugitive Emissions - Cooling Towers
Profile Number : 0035
Data Quality   : C
--------------------------------------------------------------------------------
Control Device : Uncontrolled
Reference(s)   : 49
Data Source    : Information based on xylene extraction and GC analysis
                 of water samples at inlet and outlet.

SCC Assignments: 30600701, 30600702

--------------------------------------------------------------------------------
Saroad      CAS Number     Name                              Spec_MW  Spec_WT  Peak
--------------------------------------------------------------------------------
43122                      ISOMERS OF PENTANE                  72.15   100.00
--------------------------------------------------------------------------------
TOTAL                                                                  100.00
================================================================================
VOC Profile Speciation Report
-------------------------------------------------------------------------------
Profile Name   : Refinery Fugitive Emissions - Compressor Seals - Refinery Gas
Profile Number : 0039
Data Quality   : D
-------------------------------------------------------------------------------
Control Device : Uncontrolled
Reference(s)   : 59
Data Source    : Information based on composite survey data, GC/MS
                 analysis of grab sample taken at leak.

SCC Assignments: 30600804

-------------------------------------------------------------------------------
Saroad     CAS Number     Name                              Spec_MW   Spec_WT   Peak
-------------------------------------------------------------------------------
43105                     ISOMERS OF HEXANE                   86.17      1.00
43106                     ISOMERS OF HEPTANE                 100.20      0.10
43122                     ISOMERS OF PENTANE                  72.15      8.60
43201        74-82-8      METHANE                             16.04     13.30
43202        74-84-0      ETHANE                              30.07      5.60
43204        74-98-6      PROPANE                             44.09     16.00
43205       115-07-1      PROPENE                             42.08      8.80
43212       106-97-8      N-BUTANE                            58.12     23.20
43213       106-98-9      BUTENE                              56.10      1.20
43214        75-28-5      ISO-BUTANE                          58.12     10.00
43220       109-66-0      N-PENTANE                           72.15      7.60
43231       110-54-3      HEXANE                              86.17      4.60
-------------------------------------------------------------------------------
TOTAL                                                                  100.00
===============================================================================
VOC Profile Speciation Report
------------------------------------------------------------------------------
Profile Name   : Refinery Fugitive Emissions - Relief Valves - Liquified Petroleum Gas
Profile Number : 0047
Data Quality   : C
------------------------------------------------------------------------------
Control Device : Uncontrolled
Reference(s)   : 60
Data Source    : Information based on composite survey data, engineering
                 evaluation of literature data.

SCC Assignments: 30600802

------------------------------------------------------------------------------
Saroad      CAS Number      Name                             Spec_MW  Spec_WT  Peak
------------------------------------------------------------------------------
43202          74-84-0      ETHANE                            30.07     4.10
43204          74-98-6      PROPANE                           44.09    90.40
43205         115-07-1      PROPENE                           42.08     5.10
43214          75-28-5      ISO-BUTANE                        58.12     0.40
------------------------------------------------------------------------------
TOTAL                                                                100.00
==============================================================================
VOC Profile Speciation Report
-------------------------------------------------------------------------------------
Profile Name   : Flares - Natural Gas
Profile Number : 0051
Data Quality   : D
-------------------------------------------------------------------------------------
Control Device : Uncontrolled
Reference(s)   : 60
Data Source    : Information based on composite survey data, engineering
                 evaluation of literature data

SCC Assignments: 30600903

-------------------------------------------------------------------------------------
Saroad       CAS Number       Name                                Spec_MW   Spec_WT   Peak
-------------------------------------------------------------------------------------
43201          74-82-8        METHANE                               16.04     20.00
43202          74-84-0        ETHANE                                30.07     30.00
43204          74-98-6        PROPANE                               44.09     30.00
43502          50-00-0        FORMALDEHYDE                          30.03     20.00
-------------------------------------------------------------------------------------
TOTAL                                                                        100.00
=====================================================================================
VOC Profile Speciation Report
--------------------------------------------------------------------------------
Profile Name   : Pipe/Valve Flanges
Profile Number : 0316
Data Quality   : C
--------------------------------------------------------------------------------
Control Device : Uncontrolled
Reference(s)   : 59
Data Source    : Engineering evaluation of test data.

SCC Assignments: 30600801

--------------------------------------------------------------------------------
Saroad      CAS Number      Name                             Spec_MW   Spec_WT   Peak
--------------------------------------------------------------------------------
43105                       ISOMERS OF HEXANE                  86.17      1.60
43106                       ISOMERS OF HEPTANE                100.20      0.80
43107                       ISOMERS OF OCTANE                 114.23      0.40
43108                       ISOMERS OF NONANE                 128.25      0.50
43109                       ISOMERS OF DECANE                 142.28      0.30
43115                       C-7 CYCLOPARAFFINS                 98.19      0.20
43117                       C-9 CYCLOPARAFFINS                126.26      0.10
43122                       ISOMERS OF PENTANE                 72.15      7.80
43201          74-82-8      METHANE                            16.04     28.60
43202          74-84-0      ETHANE                             30.07      5.80
43204          74-98-6      PROPANE                            44.09     11.50
43205         115-07-1      PROPENE                            42.08      0.10
43212         106-97-8      N-BUTANE                           58.12     18.30
43214          75-28-5      ISO-BUTANE                         58.12      7.40
43220         109-66-0      N-PENTANE                          72.15      7.70
43231         110-54-3      HEXANE                             86.17      3.40
43232         142-82-5      HEPTANE                           100.20      1.40
43233         111-65-9      OCTANE                            114.23      1.80
43235         111-84-2      NONANE                            128.25      0.60
43238         124-18-5      N-DECANE                          142.28      0.80
43248         110-82-7      CYCLOHEXANE                        84.16      0.10
45102        1330-20-7      ISOMERS OF XYLENE                 106.16      0.20
45201          71-43-2      BENZENE                            78.11      0.10
45202         108-88-3      TOLUENE                            92.13      0.50
--------------------------------------------------------------------------------
TOTAL                                                                   100.00
================================================================================
```

VOC Profile Speciation Report

Profile Name : Pump Seals - Composite
Profile Number : 0321
Data Quality : C

Control Device : Uncontrolled
Reference(s) : 59
Data Source : Engineering evaluation of test data.

SCC Assignments: 30600803

Saroad	CAS Number	Name	Spec_MW	Spec_WT	Peak
43105		ISOMERS OF HEXANE	86.17	5.50	
43106		ISOMERS OF HEPTANE	100.20	4.10	
43107		ISOMERS OF OCTANE	114.23	2.80	
43108		ISOMERS OF NONANE	128.25	3.10	
43109		ISOMERS OF DECANE	142.28	1.90	
43115		C-7 CYCLOPARAFFINS	98.19	1.10	
43116		C-8 CYCLOPARAFFINS	112.23	0.10	
43117		C-9 CYCLOPARAFFINS	126.26	0.80	
43122		ISOMERS OF PENTANE	72.15	6.60	
43201	74-82-8	METHANE	16.04	3.30	
43202	74-84-0	ETHANE	30.07	1.20	
43204	74-98-6	PROPANE	44.09	3.70	
43212	106-97-8	N-BUTANE	58.12	8.10	
43214	75-28-5	ISO-BUTANE	58.12	0.80	
43220	109-66-0	N-PENTANE	72.15	11.10	
43231	110-54-3	HEXANE	86.17	11.00	
43232	142-82-5	HEPTANE	100.20	8.50	
43233	111-65-9	OCTANE	114.23	12.00	
43235	111-84-2	NONANE	128.25	3.90	
43238	124-18-5	N-DECANE	142.28	5.10	
43248	110-82-7	CYCLOHEXANE	84.16	0.50	
45102	1330-20-7	ISOMERS OF XYLENE	106.16	1.30	
45201	71-43-2	BENZENE	78.11	0.50	
45202	108-88-3	TOLUENE	92.13	3.00	
TOTAL				100.00	

3.14 PLYWOOD PRODUCTION

Plywood is made by adhering layers of thin wood or veneers onto a wood core. Processes involved in plywood production include: (1) sawing wood into veneers, (2) drying, (3) application of adhesive, (4) hot press operation, and (5) finishing. Finishing may include sanding, trimming, or treatment.

```
VOC Profile Speciation Report
------------------ -------------------------------------------------------------
Profile Name   : Pulp and Paper Industry - Plywood Veneer Dryer
Profile Number : 1189
Data Quality   : C
--------------------------------------------------------------------------------
Control Device : Not reported
Reference(s)   : 89
Data Source    : Emissions data from 4 plywood veneer dryers analyzed by
                 FID/GC and GC/MS.

SCC Assignments: 30700711, 30700712, 30700713, 30700714, 30700715

--------------------------------------------------------------------------------
Saroad      CAS Number      Name                            Spec_MW   Spec_WT   Peak
--------------------------------------------------------------------------------
43204          74-98-6      PROPANE                           44.09      0.03
43256          80-56-8      A-PINENE                         136.24     52.71
43257         127-91-3      B-PINENE                         136.24     34.44
90050        5794-03-6      CAMPHENE                         136.24      1.27
90051         123-35-3      MYRCENE                          136.24      1.87
90052                       B-PHELLANDRENE                   136.24      1.69
90053        5989-27-5      D-LIMONENE                       136.24      7.99
--------------------------------------------------------------------------------
TOTAL                                                                 100.00
================================================================================
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3.15 SYNTHETIC RUBBER PRODUCTION

Emulsion type and solution type polymerization reactions are used to produce styrene-butadiene copolymers. The emulsion products can be sold in either a granular solid form, known as crumb, or in a liquid form, known as latex. Copolymers of styrene and butadiene can be made with properties ranging from those of a rubbery material to those of very resilient plastic. Uncontrolled VOC emissions may pass to the atmosphere during the emulsion crumb process and from blending/coagulation tanks and dryers.

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```
VOC Profile Speciation Report
--------------------------------------------------------------------------------
Profile Name   : Automotive Tires - Tuber Adhesive
Profile Number : 0272
Data Quality   : C
--------------------------------------------------------------------------------
Control Device : Uncontrolled
Reference(s)   : 59
Data Source    : Information based on composite survey data and GC/MS
                 +analysis of grab sample.

SCC Assignments: 30800121

--------------------------------------------------------------------------------
Saroad      CAS Number       Name                           Spec_MW   Spec_WT   Peak
--------------------------------------------------------------------------------
43106                        ISOMERS OF HEPTANE              100.20      4.70
43107                        ISOMERS OF OCTANE               114.23      0.80
43115                        C-7 CYCLOPARAFFINS               98.19     43.20
43116                        C-8 CYCLOPARAFFINS              112.23      6.00
43231         110-54-3       HEXANE                           86.17      5.80
43232         142-82-5       HEPTANE                         100.20      1.90
43233         111-65-9       OCTANE                          114.23      0.40
43248         110-82-7       CYCLOHEXANE                      84.16     16.30
43262          96-37-7       METHYLCYCLOPENTANE               84.16     17.70
45201          71-43-2       BENZENE                          78.11      2.80
45202         108-88-3       TOLUENE                          92.13      0.40
--------------------------------------------------------------------------------
TOTAL                                                                  100.00
================================================================================
```

VOC Profile Speciation Report

Profile Name : Automotive Tires - Tuber Adhesive White Sidewall
Profile Number : 0273
Data Quality : C

Control Device : Uncontrolled
Reference(s) : 59
Data Source : Information based on composite survey data and GC/MS analysis of grab sample.

SCC Assignments: 30800101, 30800120

Saroad	CAS Number	Name	Spec_MW	Spec_WT	Peak
43105		ISOMERS OF HEXANE	86.17	24.20	
43106		ISOMERS OF HEPTANE	100.20	0.20	
43231	110-54-3	HEXANE	86.17	33.60	
43242	287-92-3	CYCLOPENTANE	70.14	0.20	
43248	110-82-7	CYCLOHEXANE	84.16	0.40	
43262	96-37-7	METHYLCYCLOPENTANE	84.16	33.70	
45201	71-43-2	BENZENE	78.11	7.70	
TOTAL				100.00	

```
VOC Profile Speciation Report
--------------------------------------------------------------------------------
Profile Name   : Automobile Tire Production
Profile Number : 0274
Data Quality   : C
--------------------------------------------------------------------------------
Control Device : Uncontrolled
Reference(s)   : 59
Data Source    : Information based on composite survey data and GC/MS
                 analysis of grab sample.

SCC Assignments: 30102601

--------------------------------------------------------------------------------
Saroad      CAS Number      Name                              Spec_MW   Spec_WT   Peak
--------------------------------------------------------------------------------
43115                       C-7 CYCLOPARAFFINS                  98.19     99.84
43116                       C-8 CYCLOPARAFFINS                 112.23      0.08
43248         110-82-7      CYCLOHEXANE                         84.16      0.04
43262          96-37-7      METHYLCYCLOPENTANE                  84.16      0.04
--------------------------------------------------------------------------------
TOTAL                                                                    100.00
================================================================================
VOC Profile Speciation Report
-------------------------------------------------------------------------------
Profile Name   : Rubber and Miscellaneous Plastics Products - Fabricated Rubber Products - Styrene/Butadien
Profile Number : 1008
Data Quality   : D
-------------------------------------------------------------------------------
Control Device : Not reported
Reference(s)   : 1
Data Source    : Engineering judgement based on reported emissions
                 (AP-42) of butadiene and styrene from the emulsion
                 polymerization process.

SCC Assignments: 30800699

-------------------------------------------------------------------------------
Saroad       CAS Number      Name                          Spec_MW   Spec_WT   Peak
-------------------------------------------------------------------------------
43218         106-99-0       1,3-BUTADIENE                   54.09     60.00
45220         100-42-5       STYRENE                        104.14     40.00
-------------------------------------------------------------------------------
TOTAL                                                                 100.00
===============================================================================
```

3.16 OIL AND GAS PRODUCTION

The oil and gas production industry includes the following processes: exploration and site preparation, drilling, crude processing, natural gas processing, and secondary or tertiary recovery. The principal products of this industry are natural gas and crude oil. Sources of VOC emissions from this industry include blowouts during drilling operations, storage tank breathing and filling losses, wastewater treatment processes, and fugitive leaks in valves, pumps, pipes, and vessels.

VOC Profile Speciation Report

Profile Name : Oil and Gas Production - Fugitives - Unclassified
Profile Number : 1010
Data Quality : D

Control Device : Not reported
Reference(s) : 1
Data Source : Composite profile developed from profiles 1011, 1012 using the procedure described on pp. 100-112 of Reference 1: compositing based on relative equipment count for gas and liquid service for South Coast Air Basin.

SCC Assignments: 31088801

Saroad	CAS Number	Name	Spec_MW	Spec_WT	Peak
43105		ISOMERS OF HEXANE	86.17	8.08	
43106		ISOMERS OF HEPTANE	100.20	9.48	
43107		ISOMERS OF OCTANE	114.23	6.99	
43115		C-7 CYCLOPARAFFINS	98.19	1.30	
43116		C-8 CYCLOPARAFFINS	112.23	0.50	
43122		ISOMERS OF PENTANE	72.15	4.29	
43201	74-82-8	METHANE	16.04	46.31	
43202	74-84-0	ETHANE	30.07	6.99	
43204	74-98-6	PROPANE	44.09	9.48	
43212	106-97-8	N-BUTANE	58.12	6.19	
43214	75-28-5	ISO-BUTANE	58.12	0.30	
45201	71-43-2	BENZENE	78.11	0.10	
TOTAL				100.01	

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```
VOC Profile Speciation Report
--------------------------------------------------------------------------------
Profile Name   : Oil and Gas Production - Fugitives - Valves and Fittings - Liquid Service
Profile Number : 1011
Data Quality   : D
--------------------------------------------------------------------------------
Control Device : Not reported
Reference(s)   : 1
Data Source    : Based on liquid service species data developed for
                 American Petroleum Institute.

SCC Assignments: 31000101

--------------------------------------------------------------------------------
Saroad      CAS Number      Name                           Spec_MW   Spec_WT   Peak
--------------------------------------------------------------------------------
43105                       ISOMERS OF HEXANE                86.17      9.90
43106                       ISOMERS OF HEPTANE              100.20     11.60
43107                       ISOMERS OF OCTANE               114.23      8.70
43115                       C-7 CYCLOPARAFFINS               98.19      1.60
43116                       C-8 CYCLOPARAFFINS              112.23      0.60
43122                       ISOMERS OF PENTANE               72.15      5.60
43201          74-82-8      METHANE                          16.04     37.60
43202          74-84-0      ETHANE                           30.07      6.40
43204          74-98-6      PROPANE                          44.09     10.10
43212         106-97-8      N-BUTANE                         58.12      7.40
43214          75-28-5      ISO-BUTANE                       58.12      0.40
45201          71-43-2      BENZENE                          78.11      0.10
--------------------------------------------------------------------------------
TOTAL                                                                 100.00
================================================================================
```

VOC Profile Speciation Report

Profile Name : Oil and Gas Production - Fugitives - Valves and Fittings - Gas Service
Profile Number : 1012
Data Quality : D

Control Device : Not reported
Reference(s) : 1
Data Source : Based on gas service species data developed for
American Petroleum Institute.

SCC Assignments: 31000203

Saroad	CAS Number	Name	Spec_MW	Spec_WT	Peak
43105		ISOMERS OF HEXANE	86.17	5.20	
43106		ISOMERS OF HEPTANE	100.20	6.10	
43107		ISOMERS OF OCTANE	114.23	4.60	
43115		C-7 CYCLOPARAFFINS	98.19	0.90	
43116		C-8 CYCLOPARAFFINS	112.23	0.30	
43122		ISOMERS OF PENTANE	72.15	2.10	
43201	74-82-8	METHANE	16.04	61.30	
43202	74-84-0	ETHANE	30.07	7.90	
43204	74-98-6	PROPANE	44.09	7.00	
43212	106-97-8	N-BUTANE	58.12	4.30	
43214	75-28-5	ISO-BUTANE	58.12	0.20	
45201	71-43-2	BENZENE	78.11	0.10	
TOTAL				100.00	

VOC Profile Speciation Report

Profile Name : Crude Oil Production - Well Heads (Water Flood)
Profile Number : 1205
Data Quality : C

Control Device : Uncontrolled
Reference(s) : 96
Data Source : Crude comes from the Oklahoma Glen Sand formation which is at a depth of 1500 feet. Nine samples were taken in stainless steel canisters and analyzed using a GC with cryogenic sample pre-concentration and flame ionization detection.

SCC Assignments: 31000101

Saroad	CAS Number	Name	Spec_MW	Spec_WT	Peak
43202	74-84-0	ETHANE	30.07	6.27	
43204	74-98-6	PROPANE	44.09	18.42	
43212	106-97-8	N-BUTANE	58.12	14.74	
43220	109-66-0	N-PENTANE	72.15	5.68	
43229	107-83-5	2-METHYLPENTANE	86.17	1.49	
43230	96-14-0	3-METHYL PENTANE	86.17	0.89	
43231	110-54-3	HEXANE	86.17	1.95	
43232	142-82-5	HEPTANE	100.20	1.32	
43233	111-65-9	OCTANE	114.23	1.02	
43242	287-92-3	CYCLOPENTANE	70.14	0.49	
43247	108-08-7	2,4-DIMETHYLPENTANE	100.20	0.22	
43248	110-82-7	CYCLOHEXANE	84.16	0.77	
43261	108-87-2	METHYLCYCLOHEXANE	98.21	1.27	
43262	96-37-7	METHYLCYCLOPENTANE	84.16	1.45	
43263	591-76-4	2-METHYL HEXANE	100.20	0.39	
43274	565-59-3	2,3 DIMETHYL PENTANE	100.20	0.16	
43276	79-29-8	2,3 DIMETHYLBUTANE	86.17	0.16	
43288	1678-91-7	ETHYLCYCLOHEXANE	112.23	0.47	
43291	75-83-2	2,2-DIMETHYLBUTANE	86.17	0.05	
43295	589-34-4	3-METHYLHEXANE	100.20	0.53	
43296	592-27-8	2-METHYLHEPTANE	114.23	0.66	
43298		3-METHYLHEPTANE	114.23	0.35	
43910	75-28-5	2-ME-PROPANE	58.10	5.36	
43911	78-78-4	2-ME-BUTANE	72.20	4.62	
43912	540-84-1	2,2,4-TRIME-PENTANE	114.20	0.75	
45201	71-43-2	BENZENE	78.11	0.38	
45202	108-88-3	TOLUENE	92.13	0.62	
45203	100-41-4	ETHYLBENZENE	106.16	0.95	
45204	95-47-6	O-XYLENE	106.16	1.35	
90010		M-XYLENE AND P-XYLENE	106.16	3.62	
TOTAL				76.40	

VOC Profile Speciation Report

Profile Name : Crude Oil Production - Well Heads (Water Flood)
Profile Number : 1206
Data Quality : C

Control Device : Uncontrolled
Reference(s) : 96
Data Source : Crude comes from the Oklahoma Redfork formation which is at a depth of 1,300 feet. Eight samples were taken in stainless steel canisters and analyzed using a GC with cryogenic sample pre-concentration and flame ionization detection.

SCC Assignments: 31000101

Saroad	CAS Number	Name	Spec_MW	Spec_WT	Peak
43202	74-84-0	ETHANE	30.07	6.74	
43204	74-98-6	PROPANE	44.09	16.55	
43212	106-97-8	N-BUTANE	58.12	18.78	
43220	109-66-0	N-PENTANE	72.15	10.97	
43229	107-83-5	2-METHYLPENTANE	86.17	3.29	
43230	96-14-0	3-METHYL PENTANE	86.17	1.94	
43231	110-54-3	HEXANE	86.17	4.78	
43232	142-82-5	HEPTANE	100.20	2.27	
43233	111-65-9	OCTANE	114.23	1.06	
43242	287-92-3	CYCLOPENTANE	70.14	0.91	
43247	108-08-7	2,4-DIMETHYLPENTANE	100.20	0.13	
43248	110-82-7	CYCLOHEXANE	84.16	1.43	
43261	108-87-2	METHYLCYCLOHEXANE	98.21	1.97	
43262	96-37-7	METHYLCYCLOPENTANE	84.16	3.04	
43263	591-76-4	2-METHYL HEXANE	100.20	0.74	
43274	565-59-3	2,3 DIMETHYL PENTANE	100.20	0.32	
43276	79-29-8	2,3 DIMETHYLBUTANE	86.17	0.32	
43288	1678-91-7	ETHYLCYCLOHEXANE	112.23	0.26	
43291	75-83-2	2,2-DIMETHYLBUTANE	86.17	0.09	
43295	589-34-4	3-METHYLHEXANE	100.20	1.04	
43296	592-27-8	2-METHYLHEPTANE	114.23	0.79	
43298		3-METHYLHEPTANE	114.23	0.34	
43910	75-28-5	2-ME-PROPANE	58.10	5.48	
43911	78-78-4	2-ME-BUTANE	72.20	8.08	
43912	540-84-1	2,2,4-TRIME-PENTANE	114.20	1.37	
45201	71-43-2	BENZENE	78.11	0.16	
45202	108-88-3	TOLUENE	92.13	0.13	
45203	100-41-4	ETHYLBENZENE	106.16	0.12	
45204	95-47-6	O-XYLENE	106.16	0.04	
90010		M-XYLENE AND P-XYLENE	106.16	0.34	
TOTAL				93.48	

```
VOC Profile Speciation Report
-------------------------------------------------------------------------------
Profile Name   : Well Heads (Water Flood) Composite
Profile Number : 1207
Data Quality   : C
-------------------------------------------------------------------------------
Control Device : Uncontrolled
Reference(s)   : 96
Data Source    : Composite profile developed from Profiles 1205 and 1206.

SCC Assignments: 31000101

-------------------------------------------------------------------------------
Saroad       CAS Number       Name                             Spec_MW  Spec_WT  Peak
-------------------------------------------------------------------------------
43202           74-84-0       ETHANE                             30.07     6.51
43204           74-98-6       PROPANE                            44.09    17.48
43212          106-97-8       N-BUTANE                           58.12    16.77
43220          109-66-0       N-PENTANE                          72.15     8.33
43229          107-83-5       2-METHYLPENTANE                    86.17     2.40
43230           96-14-0       3-METHYL PENTANE                   86.17     1.42
43231          110-54-3       HEXANE                             86.17     3.37
43232          142-82-5       HEPTANE                           100.20     1.80
43233          111-65-9       OCTANE                            114.23     1.04
43242          287-92-3       CYCLOPENTANE                       70.14     0.70
43247          108-08-7       2,4-DIMETHYLPENTANE               100.20     0.18
43248          110-82-7       CYCLOHEXANE                        84.16     1.11
43261          108-87-2       METHYLCYCLOHEXANE                  98.21     1.63
43262           96-37-7       METHYLCYCLOPENTANE                 84.16     2.44
43263          591-76-4       2-METHYL HEXANE                   100.20     0.57
43274          565-59-3       2,3 DIMETHYL PENTANE              100.20     0.25
43276           79-29-8       2,3 DIMETHYLBUTANE                 86.17     0.24
43288         1678-91-7       ETHYLCYCLOHEXANE                  112.23     0.37
43291           75-83-2       2,2-DIMETHYLBUTANE                 86.17     0.08
43295          589-34-4       3-METHYLHEXANE                    100.20     0.80
43296          592-27-8       2-METHYLHEPTANE                   114.23     0.73
43298                         3-METHYLHEPTANE                   114.23     0.35
43910           75-28-5       2-ME-PROPANE                       58.10     5.42
43911           78-78-4       2-ME-BUTANE                        72.20     6.36
43912          540-84-1       2,2,4-TRIME-PENTANE               114.20     1.07
45201           71-43-2       BENZENE                            78.11     0.28
45202          108-88-3       TOLUENE                            92.13     0.38
45203          100-41-4       ETHYLBENZENE                      106.16     0.54
45204           95-47-6       O-XYLENE                          106.16     0.70
90010                         M-XYLENE AND P-XYLENE             106.16     1.98
-------------------------------------------------------------------------------
TOTAL                                                                     85.30
===============================================================================
```

VOC Profile Speciation Report

Profile Name : Crude Oil Production - Gathering Tanks
Profile Number : 1208
Data Quality : C

Control Device : Uncontrolled
Reference(s) : 96
Data Source : Seven samples from Oklahoma Glen Sand and Dutcher formations were taken in stainless steel canisters and analyzed using a GC with cryogenic sample pre-concentration and flame ionization detection.

SCC Assignments: 40400302

Saroad	CAS Number	Name	Spec_MW	Spec_WT	Peak
43202	74-84-0	ETHANE	30.07	9.28	
43204	74-98-6	PROPANE	44.09	25.84	
43212	106-97-8	N-BUTANE	58.12	20.03	
43220	109-66-0	N-PENTANE	72.15	7.30	
43229	107-83-5	2-METHYLPENTANE	86.17	1.80	
43230	96-14-0	3-METHYL PENTANE	86.17	1.03	
43231	110-54-3	HEXANE	86.17	2.20	
43232	142-82-5	HEPTANE	100.20	1.21	
43233	111-65-9	OCTANE	114.23	0.70	
43242	287-92-3	CYCLOPENTANE	70.14	0.51	
43247	108-08-7	2,4-DIMETHYLPENTANE	100.20	0.06	
43248	110-82-7	CYCLOHEXANE	84.16	0.90	
43261	108-87-2	METHYLCYCLOHEXANE	98.21	1.23	
43262	96-37-7	METHYLCYCLOPENTANE	84.16	1.48	
43263	591-76-4	2-METHYL HEXANE	100.20	0.37	
43274	565-59-3	2,3 DIMETHYL PENTANE	100.20	0.16	
43276	79-29-8	2,3 DIMETHYLBUTANE	86.17	0.20	
43288	1678-91-7	ETHYLCYCLOHEXANE	112.23	0.28	
43291	75-83-2	2,2-DIMETHYLBUTANE	86.17	0.08	
43295	589-34-4	3-METHYLHEXANE	100.20	0.51	
43296	592-27-8	2-METHYLHEPTANE	114.23	0.52	
43298		3-METHYLHEPTANE	114.23	0.24	
43910	75-28-5	2-ME-PROPANE	58.10	7.14	
43911	78-78-4	2-ME-BUTANE	72.20	6.29	
43912	540-84-1	2,2,4-TRIME-PENTANE	114.20	0.56	
45201	71-43-2	BENZENE	78.11	0.12	
45202	108-88-3	TOLUENE	92.13	0.23	
45203	100-41-4	ETHYLBENZENE	106.16	0.09	
45204	95-47-6	O-XYLENE	106.16	0.11	
90010		M-XYLENE AND P-XYLENE	106.16	0.46	
TOTAL				90.93	

VOC Profile Speciation Report

Profile Name : Oilfield Pipeline Tanks
Profile Number : 1209
Data Quality : C

Control Device : Internal Floating Roofs with Seals
Reference(s) : 96
Data Source : Four samples of emissions from tanks storing "Oklahoma sweet" crude oil were taken in stainless steel canisters and analyzed using a GC with cryogenic sample pre-concentration and flame ionization detection.

SCC Assignments: 40400302, 40400305

Saroad	CAS Number	Name	Spec_MW	Spec_WT	Peak
43202	74-84-0	ETHANE	30.07	3.95	
43204	74-98-6	PROPANE	44.09	22.66	
43212	106-97-8	N-BUTANE	58.12	13.62	
43220	109-66-0	N-PENTANE	72.15	19.21	
43229	107-83-5	2-METHYLPENTANE	86.17	2.58	
43230	96-14-0	3-METHYL PENTANE	86.17	1.30	
43231	110-54-3	HEXANE	86.17	2.74	
43232	142-82-5	HEPTANE	100.20	0.56	
43233	111-65-9	OCTANE	114.23	0.18	
43242	287-92-3	CYCLOPENTANE	70.14	0.61	
43247	108-08-7	2,4-DIMETHYLPENTANE	100.20	0.07	
43248	110-82-7	CYCLOHEXANE	84.16	0.93	
43261	108-87-2	METHYLCYCLOHEXANE	98.21	0.78	
43262	96-37-7	METHYLCYCLOPENTANE	84.16	1.13	
43263	591-76-4	2-METHYL HEXANE	100.20	0.29	
43274	565-59-3	2,3 DIMETHYL PENTANE	100.20	0.09	
43276	79-29-8	2,3 DIMETHYLBUTANE	86.17	0.50	
43288	1678-91-7	ETHYLCYCLOHEXANE	112.23	0.08	
43291	75-83-2	2,2-DIMETHYLBUTANE	86.17	0.31	
43295	589-34-4	3-METHYLHEXANE	100.20	0.32	
43296	592-27-8	2-METHYLHEPTANE	114.23	0.16	
43298		3-METHYLHEPTANE	114.23	0.08	
43910	75-28-5	2-ME-PROPANE	58.10	2.47	
43911	78-78-4	2-ME-BUTANE	72.20	22.50	
43912	540-84-1	2,2,4-TRIME-PENTANE	114.20	0.24	
45201	71-43-2	BENZENE	78.11	0.08	
45202	108-88-3	TOLUENE	92.13	0.12	
45203	100-41-4	ETHYLBENZENE	106.16	0.02	
45204	95-47-6	O-XYLENE	106.16	0.03	
90010		M-XYLENE AND P-XYLENE	106.16	0.12	
TOTAL				97.73	

VOC Profile Speciation Report

Profile Name : Pipeline Terminal Tanks
Profile Number : 1210
Data Quality : C

Control Device : Internal Floating Roof with Seal
Reference(s) : 96
Data Source : Four samples from Sinclair Terminal storing "Oklahoma sweet" crude oil were taken in stainless steel canisters and analyzed using a GC with cryogenic sample pre-concentration and flame ionization detection.

SCC Assignments: 40400303, 40400304, 40400305

Saroad	CAS Number	Name	Spec_MW	Spec_WT	Peak
43202	74-84-0	ETHANE	30.07	0.35	
43204	74-98-6	PROPANE	44.09	3.31	
43212	106-97-8	N-BUTANE	58.12	9.57	
43220	109-66-0	N-PENTANE	72.15	9.41	
43229	107-83-5	2-METHYLPENTANE	86.17	5.26	
43230	96-14-0	3-METHYL PENTANE	86.17	3.13	
43231	110-54-3	HEXANE	86.17	4.69	
43232	142-82-5	HEPTANE	100.20	2.11	
43233	111-65-9	OCTANE	114.23	0.67	
43242	287-92-3	CYCLOPENTANE	70.14	2.02	
43247	108-08-7	2,4-DIMETHYLPENTANE	100.20	0.38	
43248	110-82-7	CYCLOHEXANE	84.16	4.57	
43261	108-87-2	METHYLCYCLOHEXANE	98.21	5.91	
43262	96-37-7	METHYLCYCLOPENTANE	84.16	7.22	
43263	591-76-4	2-METHYL HEXANE	100.20	0.98	
43274	565-59-3	2,3 DIMETHYL PENTANE	100.20	0.80	
43276	79-29-8	2,3 DIMETHYLBUTANE	86.17	1.07	
43288	1678-91-7	ETHYLCYCLOHEXANE	112.23	0.61	
43291	75-83-2	2,2-DIMETHYLBUTANE	86.17	0.30	
43295	589-34-4	3-METHYLHEXANE	100.20	1.50	
43296	592-27-8	2-METHYLHEPTANE	114.23	1.07	
43298		3-METHYLHEPTANE	114.23	0.50	
43910	75-28-5	2-ME-PROPANE	58.10	4.51	
43911	78-78-4	2-ME-BUTANE	72.20	9.76	
43912	540-84-1	2,2,4-TRIME-PENTANE	114.20	3.03	
45201	71-43-2	BENZENE	78.11	0.54	
45202	108-88-3	TOLUENE	92.13	0.90	
45203	100-41-4	ETHYLBENZENE	106.16	0.22	
45204	95-47-6	O-XYLENE	106.16	0.16	
90010		M-XYLENE AND P-XYLENE	106.16	0.73	
TOTAL				85.28	

VOC Profile Speciation Report

Profile Name : Refinery Crude Oil Storage Tanks
Profile Number : 1211
Data Quality : C

Control Device : Internal Floating Roof with Seal
Reference(s) : 96
Data Source : Four samples from Sinclair and Sun Refinery crude oil storage tanks were taken in stainless steel canisters and analyzed using a GC with cryogenic sample pre-concentration and flame ionization detection.

SCC Assignments: 40400303, 40400304, 40400305

Saroad	CAS Number	Name	Spec_MW	Spec_WT	Peak
43202	74-84-0	ETHANE	30.07	4.51	
43204	74-98-6	PROPANE	44.09	18.97	
43212	106-97-8	N-BUTANE	58.12	22.71	
43220	109-66-0	N-PENTANE	72.15	13.29	
43229	107-83-5	2-METHYLPENTANE	86.17	3.12	
43230	96-14-0	3-METHYL PENTANE	86.17	1.79	
43231	110-54-3	HEXANE	86.17	3.89	
43232	142-82-5	HEPTANE	100.20	1.31	
43233	111-65-9	OCTANE	114.23	0.34	
43242	287-92-3	CYCLOPENTANE	70.14	0.87	
43247	108-08-7	2,4-DIMETHYLPENTANE	100.20	0.11	
43248	110-82-7	CYCLOHEXANE	84.16	1.24	
43261	108-87-2	METHYLCYCLOHEXANE	98.21	1.21	
43262	96-37-7	METHYLCYCLOPENTANE	84.16	2.15	
43263	591-76-4	2-METHYL HEXANE	100.20	0.50	
43274	565-59-3	2,3 DIMETHYL PENTANE	100.20	0.22	
43276	79-29-8	2,3 DIMETHYLBUTANE	86.17	0.38	
43288	1678-91-7	ETHYLCYCLOHEXANE	112.23	0.11	
43291	75-83-2	2,2-DIMETHYLBUTANE	86.17	0.16	
43295	589-34-4	3-METHYLHEXANE	100.20	0.77	
43296	592-27-8	2-METHYLHEPTANE	114.23	0.30	
43298		3-METHYLHEPTANE	114.23	0.15	
43910	75-28-5	2-ME-PROPANE	58.10	6.06	
43911	78-78-4	2-ME-BUTANE	72.20	11.22	
43912	540-84-1	2,2,4-TRIME-PENTANE	114.20	0.70	
45201	71-43-2	BENZENE	78.11	0.32	
45202	108-88-3	TOLUENE	92.13	0.35	
45203	100-41-4	ETHYLBENZENE	106.16	0.05	
45204	95-47-6	O-XYLENE	106.16	0.04	
90010		M-XYLENE AND P-XYLENE	106.16	0.14	
TOTAL				96.98	

VOC Profile Speciation Report

Profile Name : Crude Oil Production - Well Heads (Gas Drive)
Profile Number : 1212
Data Quality : C

Control Device : Uncontrolled
Reference(s) : 96
Data Source : Crude comes from the Oklahoma Dutcher formation which is at a depth of 1,400 feet. Four samples were taken in stainless steel canisters and analyzed using a GC with cryogenic sample pre-concentration and flame ionization detection.

SCC Assignments: 31000101

Saroad	CAS Number	Name	Spec_MW	Spec_WT	Peak
43202	74-84-0	ETHANE	30.07	17.52	
43204	74-98-6	PROPANE	44.09	32.63	
43212	106-97-8	N-BUTANE	58.12	21.33	
43220	109-66-0	N-PENTANE	72.15	6.46	
43229	107-83-5	2-METHYLPENTANE	86.17	1.48	
43230	96-14-0	3-METHYL PENTANE	86.17	0.83	
43231	110-54-3	HEXANE	86.17	1.68	
43232	142-82-5	HEPTANE	100.20	0.68	
43233	111-65-9	OCTANE	114.23	0.25	
43242	287-92-3	CYCLOPENTANE	70.14	0.38	
43247	108-08-7	2,4-DIMETHYLPENTANE	100.20	0.05	
43248	110-82-7	CYCLOHEXANE	84.16	0.68	
43261	108-87-2	METHYLCYCLOHEXANE	98.21	0.74	
43262	96-37-7	METHYLCYCLOPENTANE	84.16	1.04	
43263	591-76-4	2-METHYL HEXANE	100.20	0.24	
43274	565-59-3	2,3 DIMETHYL PENTANE	100.20	0.11	
43276	79-29-8	2,3 DIMETHYLBUTANE	86.17	0.17	
43288	1678-91-7	ETHYLCYCLOHEXANE	112.23	0.09	
43291	75-83-2	2,2-DIMETHYLBUTANE	86.17	0.05	
43295	589-34-4	3-METHYLHEXANE	100.20	0.32	
43296	592-27-8	2-METHYLHEPTANE	114.23	0.23	
43298		3-METHYLHEPTANE	114.23	0.10	
43910	75-28-5	2-ME-PROPANE	58.10	6.44	
43911	78-78-4	2-ME-BUTANE	72.20	5.56	
43912	540-84-1	2,2,4-TRIME-PENTANE	114.20	0.32	
45201	71-43-2	BENZENE	78.11	0.05	
45202	108-88-3	TOLUENE	92.13	0.09	
45203	100-41-4	ETHYLBENZENE	106.16	0.02	
45204	95-47-6	O-XYLENE	106.16	0.03	
90010		M-XYLENE AND P-XYLENE	106.16	0.12	
TOTAL				99.69	

3.17 TEXTILE PRODUCTS

The textile manufacturing industry converts natural and man-made fibers into fabrics and other textile products. Fibers are processed into yarns which are woven, knit, or otherwise processed into fabrics. The fabrics are then dyed, printed, and/or finished. Finished fabrics are then converted into apparel or other products such as upholstery, sheeting, and draperies by the apparel industry. Potential emission sources include process unit operations, vented fugitive emissions, and chemical and fuel storage tanks.

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VOC Profile Speciation Report

Profile Name : Textile Products - General Fabric Operations - Dyeing and Curing
Profile Number : 1095
Data Quality : B

Control Device : Not reported
Reference(s) : 20
Data Source : Air emissions were sampled with a modified SASS and analyzed by GC/MS. Profile reflects composite of weighted data from the exhaust of dyeing and curing processes at four plants.

SCC Assignments: 33000198, 33000199

Saroad	CAS Number	Name	Spec_MW	Spec_WT	Peak
43132		ALIPHATICS	100.00	5.02	
43133		PARAFFINS (C16-C34)	352.43	0.78	
43134		PARAFFINS/OLEFINS (C12-C16)	197.38	0.07	
43318	104-76-7	2-ETHYL HEXANOL	130.23	0.41	
43408	57-10-3	PALMITIC ACID	256.43	39.54	
43454	112-39-0	METHYL PALMITATE	270.46	7.53	
43455	124-10-7	METHYL MYRISTATE	242.41	0.32	
43456	112-61-8	METHYL STEARATE	298.52	9.44	
43460		METHYL C11 ESTER	214.35	0.01	
43461		METHYL C12 ESTER	228.37	0.02	
43462		METHYL C13 ESTER	242.40	0.01	
43463		METHYL C14 ESTER	256.43	0.08	
43464		METHYL C15 ESTER	270.45	0.04	
43465		METHYL C19 ESTER	326.56	0.02	
43466		METHYL C20 ESTER	340.59	0.01	
43650		OXYGENATES	86.00	0.19	
43780		DIMETHYL ALKYL AMINES	59.11	0.43	
45109		C3/C4/C5 ALKYLBENZENES	134.21	2.07	
45226	92-52-4	BIPHENYL	154.21	0.48	
45227		METHYL BIPHENYL	168.24	0.10	
45228		ETHYL STYRENE	132.21	0.54	
45229	1321-74-0	DIVINYL BENZENE	130.20	0.04	
45232	103-29-7	DIPHENYL ETHANE	182.27	0.25	
45233		ETHYL-PHENYL-PHENYL-ETHANE	210.32	0.37	
45310		C8 PHENOLS	122.16	0.06	
45311		C9 PHENOLS	136.19	0.26	
45402	65-85-0	BENZOIC ACID	122.13	1.49	
45451	131-11-3	DIMETHYL PHTHALATE	194.19	4.27	
45452	84-74-2	DIBUTYL PHTHALATE	278.35	0.29	
45454	131-16-8	DIPROPYL PHTHALATE	250.30	0.02	
45455	136-60-7	BUTYL BENZOATE	178.23	22.07	
45470		DI-C8 ALKYL PHTHALATE	390.56	0.47	
45703		2,2 DICHLORONITROANILINE	207.02	0.12	
45704	1817-73-8	BROMODINITROANILINE	262.03	0.03	
45705		BROMODINITROBENZENE	247.02	0.96	
46102	84-65-1	ANTHRAQUINONE	208.23	1.25	
46103	82-45-1	AMINOANTHRAQUINONE	223.23	0.04	
46701	91-12-3	NAPTHALENE	128.17	0.37	
46702		METHYL NAPHTHALENES	142.20	0.17	

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VOC Profile Speciation Report - continued (profile 1095)

Saroad	CAS Number	Name	Spec_MW	Spec_WT	Peak
46703	28804-88-8	DIMETHYL NAPTHALENE	156.23	0.12	
99999		UNIDENTIFIED	86.00	0.25	
TOTAL				100.01	

VOC Profile Speciation Report

Profile Name : Textile Products - General Fabric Operations - Tenter Frame
Profile Number : 1096
Data Quality : B

Control Device : Not reported
Reference(s) : 20
Data Source : Air emissions were sampled with a modified SASS train and analyzed by GC/MS. Profile reflects composite of weighted data from the exhaust of tenter frame operations at four plants.

SCC Assignments: 33000104

Saroad	CAS Number	Name	Spec_MW	Spec_WT	Peak
43132		ALIPHATICS	100.00	14.90	
43133		PARAFFINS (C16-C34)	352.43	2.83	
43134		PARAFFINS/OLEFINS (C12-C16)	197.38	0.02	
43454	112-39-0	METHYL PALMITATE	270.46	8.99	
43455	124-10-7	METHYL MYRISTATE	242.41	5.84	
43456	112-61-8	METHYL STEARATE	298.52	11.88	
43470	111-82-0	METHYL DODECANOATE	214.35	0.03	
43650		OXYGENATES	86.00	0.35	
43950	556-67-2	OCTAMETHYLCYCLOTETRASILOXANE	296.62	2.13	
43951		SILOXANE	76.08	1.16	
45109		C3/C4/C5 ALKYLBENZENES	134.21	3.49	
45226	92-52-4	BIPHENYL	154.21	2.12	
45227		METHYL BIPHENYL	168.24	0.08	
45228		ETHYL STYRENE	132.21	5.41	
45229	1321-74-0	DIVINYL BENZENE	130.20	0.61	
45230		DI(ETHYLPHENYL) ETHANE	238.37	0.01	
45232	103-29-7	DIPHENYL ETHANE	182.27	1.16	
45233		ETHYL-PHENYL-PHENYL-ETHANE	210.32	2.07	
45402	65-85-0	BENZOIC ACID	122.13	0.24	
45451	131-11-3	DIMETHYL PHTHALATE	194.19	7.19	
45452	84-74-2	DIBUTYL PHTHALATE	278.35	0.51	
45455	136-60-7	BUTYL BENZOATE	178.23	20.06	
45470		DI-C8 ALKYL PHTHALATE	390.56	0.15	
45703		2,2 DICHLORONITROANILINE	207.02	0.11	
45705		BROMODINITROBENZENE	247.02	1.21	
45808	2531-22-6	DICHLOROBENZENES	147.01	0.13	
45830		TRICHLOROBENZENES	181.45	2.90	
45831		TETRACHLOROBENZENES	215.90	0.14	
46102	84-65-1	ANTHRAQUINONE	208.23	1.36	
46701	91-12-3	NAPTHALENE	128.17	1.63	
46702		METHYL NAPHTHALENES	142.20	0.26	
46703	28804-88-8	DIMETHYL NAPTHALENE	156.23	0.42	
99999		UNIDENTIFIED	86.00	0.62	
TOTAL				100.01	

3.18 ORGANIC SOLVENT EVAPORATION

Organic solvent evaporation is a source of emissions with several operations. These operations include but are not limited to: dry cleaning, degreasing, petroleum and chemical storage, surface coating applications, asphalt related processes, solvent use, printing, and graphic arts.

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```
VOC Profile Speciation Report
----------------------------------------------------------------------------------------
Profile Name   : Perchloroethylene - Dry Cleaning
Profile Number : 0085
Data Quality   : E
----------------------------------------------------------------------------------------
Control Device : Uncontrolled
Reference(s)   : 59, 60
Data Source    : Engineering judgement.

SCC Assignments: 40100101, 40100103

----------------------------------------------------------------------------------------
Saroad      CAS Number      Name                                Spec_MW   Spec_WT   Peak
----------------------------------------------------------------------------------------
43817         127-18-4      PERCHLOROETHYLENE                   165.83     100.00
----------------------------------------------------------------------------------------
TOTAL                                                                      100.00
========================================================================================
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```
VOC Profile Speciation Report
--------------------------------------------------------------------------------
Profile Name   : Degreasing - 1,1,1-Trichloroethane
Profile Number : 0087
Data Quality   : E
--------------------------------------------------------------------------------
Control Device : Uncontrolled
Reference(s)   : 49
Data Source    : Engineering judgement and calculations from  composite
                 survey data.

SCC Assignments: 40100202

--------------------------------------------------------------------------------
Saroad      CAS Number      Name                            Spec_MW   Spec_WT   Peak
--------------------------------------------------------------------------------
43814          71-55-6      1,1,1-TRICHLOROETHANE           133.42     100.00
--------------------------------------------------------------------------------
TOTAL                                                                  100.00
================================================================================
VOC Profile Speciation Report
------------------------------------------------------------------------------
Profile Name   : Degreasing - Trichlorofluoromethane (Freon 11)
Profile Number : 0088
Data Quality   : E
------------------------------------------------------------------------------
Control Device : Uncontrolled
Reference(s)   : 59
Data Source    : Engineering judgement and calculations from composite
                 survey data.

SCC Assignments: 40100258

------------------------------------------------------------------------------
Saroad     CAS Number     Name                          Spec_MW  Spec_WT  Peak
------------------------------------------------------------------------------
43811        75-69-4      TRICHLOROFLUOROMETHANE         137.38   100.00
------------------------------------------------------------------------------
TOTAL                                                             100.00
==============================================================================
VOC Profile Speciation Report
--------------------------------------------------------------------------------
Profile Name   : Degreasing - 1,1,2-Trichloroethane
Profile Number : 0089
Data Quality   : E
--------------------------------------------------------------------------------
Control Device : Uncontrolled
Reference(s)   : 59
Data Source    : Engineering judgement and calculations from composite
                 survey data.

SCC Assignments: 40100259

--------------------------------------------------------------------------------
Saroad      CAS Number      Name                          Spec_MW   Spec_WT   Peak
--------------------------------------------------------------------------------
43820          79-00-5      1,1,2-TRICHLOROETHANE          133.42    100.00
--------------------------------------------------------------------------------
TOTAL                                                                100.00
================================================================================
VOC Profile Speciation Report
--------------------------------------------------------------------------------
Profile Name   : Degreasing - Toluene
Profile Number : 0090
Data Quality   : E
--------------------------------------------------------------------------------
Control Device : Uncontrolled
Reference(s)   : 59
Data Source    : Engineering judgement, calculations from composite
                 survey data.

SCC Assignments: 40100206, 40100256

--------------------------------------------------------------------------------
Saroad      CAS Number      Name                              Spec_MW  Spec_WT   Peak
--------------------------------------------------------------------------------
45202        108-88-3       TOLUENE                             92.13   100.00
--------------------------------------------------------------------------------
TOTAL                                                                   100.00
================================================================================
```

VOC Profile Speciation Report

Profile Name : Solvent Use - Domestic Solvents
Profile Number : 0197
Data Quality : D

Control Device : Uncontrolled
Reference(s) : 59
Data Source : Engineering evaluation of literature test data.

SCC Assignments:

Saroad	CAS Number	Name	Spec_MW	Spec_WT	Peak
43214	75-28-5	ISO-BUTANE	58.12	5.30	
43302	64-17-5	ETHYL ALCOHOL	46.07	36.90	
43304	67-63-0	ISO-PROPYL ALCOHOL	60.09	38.50	
43367	111-46-6	GLYCOL ETHER	106.14	8.30	
43369	57-55-6	PROPYLENE GLYCOL	76.11	3.20	
43435	138-22-7	N-BUTYL ACETATE	116.16	1.30	
43502	50-00-0	FORMALDEHYDE	30.03	0.60	
43551	67-64-1	ACETONE	58.08	1.40	
45101	8030-30-6	NAPHTHA	114.00	4.50	
TOTAL				100.00	

```
VOC Profile Speciation Report
--------------------------------------------------------------------------------
Profile Name   : Degreasing - Trichloroethylene
Profile Number : 0271
Data Quality   : E
--------------------------------------------------------------------------------
Control Device : Uncontrolled
Reference(s)   : 71
Data Source    : Engineering judgement; information based on composite
                 survey data and inspection of solvent formulation.

SCC Assignments: 40100255

--------------------------------------------------------------------------------
Saroad      CAS Number      Name                           Spec_MW   Spec_WT  Peak
--------------------------------------------------------------------------------
43824          79-01-6      TRICHLOROETHYLENE              131.40    100.00
--------------------------------------------------------------------------------
TOTAL                                                                100.00
================================================================================
VOC Profile Speciation Report
-------------------------------------------------------------------------------
Profile Name   : Degreasing - Dichloromethane
Profile Number : 0275
Data Quality   : E
-------------------------------------------------------------------------------
Control Device : Uncontrolled
Reference(s)   : 59
Data Source    : Engineering judgement; information based on composite
                 survey data and inspection of solvent formulation.

SCC Assignments: 40100204, 40100224, 40100254, 40100302

-------------------------------------------------------------------------------
Saroad      CAS Number       Name                          Spec_MW  Spec_WT  Peak
-------------------------------------------------------------------------------
43802          75-09-2       DICHLOROMETHANE                 84.94   100.00
-------------------------------------------------------------------------------
TOTAL                                                                100.00
===============================================================================
```

VOC Profile Speciation Report

Profile Name : Degreasing - Trichlorotrifluoroethane (Freon 113)
Profile Number : 0277
Data Quality : E

Control Device : Uncontrolled
Reference(s) : 59
Data Source : Engineering judgement; information based on composite survey data and inspection of solvent formulation.

SCC Assignments: 40100105, 40100106, 40100207, 40100257

Saroad	CAS Number	Name	Spec_MW	Spec_WT	Peak
43821	76-13-1	TRICHLOROTRIFLUOROETHANE	187.38	100.00	
TOTAL				100.00	

VOC Profile Speciation Report

Profile Name : Degreasing - Open Top - Chlorosolve
Profile Number : 1021
Data Quality : E

Control Device : Not reported
Reference(s) : 1
Data Source : Engineering judgement.

SCC Assignments: 40100208

Saroad	CAS Number	Name	Spec_MW	Spec_WT	Peak
43302	64-17-5	ETHYL ALCOHOL	46.07	30.00	
43802	75-09-2	DICHLOROMETHANE	84.94	70.00	
TOTAL				100.00	

```
VOC Profile Speciation Report
--------------------------------------------------------------------------------
Profile Name   : FURFURAL
Profile Number : 1142
Data Quality   : E
--------------------------------------------------------------------------------
Control Device : Controlled/Uncontrolled
Reference(s)   : 76
Data Source    : Engineering judgement.

SCC Assignments: 49000104

--------------------------------------------------------------------------------
Saroad      CAS Number       Name                              Spec_MW  Spec_WT  Peak
--------------------------------------------------------------------------------
45503         98-01-1        2-FURFURAL                          96.09   100.00
--------------------------------------------------------------------------------
TOTAL                                                                   100.00
================================================================================
VOC Profile Speciation Report
--------------------------------------------------------------------------------
Profile Name   : METHANOL
Profile Number : 1149
Data Quality   : E
--------------------------------------------------------------------------------
Control Device : Controlled/Uncontrolled
Reference(s)   : 76
Data Source    : Engineering judgement.

SCC Assignments: 40100301

--------------------------------------------------------------------------------
Saroad      CAS Number      Name                              Spec_MW  Spec_WT  Peak
--------------------------------------------------------------------------------
43301         67-56-1       METHYL ALCOHOL                     32.04    100.00
--------------------------------------------------------------------------------
TOTAL                                                                   100.00
================================================================================
```

VOC Profile Speciation Report

Profile Name : Degreasing
Profile Number : 1192
Data Quality : B

Control Device : Uncontrolled
Reference(s) : 90
Data Source : Six mineral spirit samples from two companies combined in equal amounts by volume. Headspace analyzed by GC/MS. 1974 consumption data used to combine mineral spirit composite with pure chlorinated solvents.

SCC Assignments: 40100201, 40100221, 40100251, 40100303

Saroad	CAS Number	Name	Spec_MW	Spec_WT	Peak
43109		ISOMERS OF DECANE	142.28	4.36	
43110		ISOMERS OF UNDECANE	156.30	0.00	(15)
43110		ISOMERS OF UNDECANE	156.30	0.00	(17)
43110		ISOMERS OF UNDECANE	156.30	3.03	
43111		ISOMERS OF DODECANE	170.32	0.18	(23)
43111		ISOMERS OF DODECANE	170.32	0.47	
43111		ISOMERS OF DODECANE	170.32	0.26	(25)
43112		ISOMERS OF TRIDECANE	184.36	0.03	(27)
43113		ISOMERS OF TETRADECANE	198.38	0.01	
43113		ISOMERS OF TETRADECANE	198.38	0.09	(31)
43124		C9 OLEFINS	126.24	0.00	(5)
43124		C9 OLEFINS	126.24	0.00	(2)
43124		C9 OLEFINS	126.24	0.00	(3)
43125		C10 OLEFINS	140.27	0.04	(10)
43125		C10 OLEFINS	140.27	0.00	(7)
43125		C10 OLEFINS	140.27	1.11	
43125		C10 OLEFINS	140.27	0.00	(4)
43125		C10 OLEFINS	140.27	0.00	(8)
4[illegible]5		C10 OLEFINS	140.27	0.00	(6)
43135		C10 PARAFFINS	142.28	0.00	(6)
43138		C-8 OLEFINS	112.23	0.49	(1)
43138		C-8 OLEFINS	112.23	0.51	
43141		C8 PARAFFIN	114.23	0.00	(1)
43146		C11 OLEFINS	154.29	0.00	(16)
43146		C11 OLEFINS	154.29	0.06	(13)
43146		C11 OLEFINS	154.29	0.00	(15)
43146		C11 OLEFINS	154.29	0.00	(14)
43146		C11 OLEFINS	154.29	0.00	(24)
43146		C11 OLEFINS	154.29	0.23	
43146		C11 OLEFINS	154.29	0.00	(18)
43147		C12 OLEFINS	168.32	0.00	(26)
43147		C12 OLEFINS	168.32	0.00	(22)
43147		C12 OLEFINS	168.32	0.01	
43147		C12 OLEFINS	168.32	0.02	(32)
43147		C12 OLEFINS	168.32	0.00	(27)
43147		C12 OLEFINS	168.32	0.04	(25)
43148		ISOMERS OF C9H16	124.23	0.32	(3)
43148		ISOMERS OF C9H16	124.23	0.07	
43150		ISOMERS OF C10H18	138.25	0.00	(11)

VOC Profile Speciation Report - continued (profile 1192)

Saroad	CAS Number	Name	Spec_MW	Spec_WT	Peak
43151		ISOMERS OF C11H20	152.28	0.00	(13)
43152		C12H22	166.31	0.00	(32)
43231	110-54-3	HEXANE	86.17	0.13	
43232	142-82-5	HEPTANE	100.20	27.59	
43235	111-84-2	NONANE	128.25	2.84	
43261	108-87-2	METHYLCYCLOHEXANE	98.21	5.97	
43288	1678-91-7	ETHYLCYCLOHEXANE	112.23	0.26	
43565		DIMETHYLCYCLOBUTANONE	98.14	0.19	
45105		ISOMERS OF BUTYLBENZENE	134.22	0.04	(9)
45105		ISOMERS OF BUTYLBENZENE	134.22	0.04	(8)
45105		ISOMERS OF BUTYLBENZENE	134.22	0.10	(17)
45105		ISOMERS OF BUTYLBENZENE	134.22	0.69	(12)
45105		ISOMERS OF BUTYLBENZENE	134.22	0.03	(16)
45105		ISOMERS OF BUTYLBENZENE	134.22	0.09	(24)
45105		ISOMERS OF BUTYLBENZENE	134.22	0.10	(19)
45105		ISOMERS OF BUTYLBENZENE	134.22	0.09	
45105		ISOMERS OF BUTYLBENZENE	134.22	0.12	(22)
45105		ISOMERS OF BUTYLBENZENE	134.22	0.00	(29)
45105		ISOMERS OF BUTYLBENZENE	134.22	0.03	(21)
45105		ISOMERS OF BUTYLBENZENE	134.22	0.00	(20)
45107	25551-13-7	TRIMETHYLBENZENE	120.19	1.00	
45108		ISOMERS OF PROPYLBENZENE	120.19	0.15	(7)
45108		ISOMERS OF PROPYLBENZENE	120.19	0.76	(6)
45202	108-88-3	TOLUENE	92.13	20.88	
45204	95-47-6	O-XYLENE	106.16	0.57	
45209	103-65-1	N-PROPYLBENZENE	120.19	0.15	
45210	98-82-8	CUMENE (ISOPROPYL BENZENE)	120.20	0.11	
45245		C5-ALKYLBENZENES	148.24	0.00	(28)
45245		C5-ALKYLBENZENES	148.24	0.00	(30)
45245		C5-ALKYLBENZENES	148.24	0.00	(27)
45245		C5-ALKYLBENZENES	148.24	0.02	(26)
45245		C5-ALKYLBENZENES	148.24	0.08	
45303		C4-ALKYLPHENOLS	150.22	0.12	
45304		C5-ALKYLPHENOLS	164.25	0.00	(33)
45304		C5-ALKYLPHENOLS	164.25	0.06	
45320		DIMETHYLBENZYLALCOHOL	136.19	0.05	
45808	2531-22-6	DICHLOROBENZENES	147.01	0.00	(9)
46202		OCTAHYDROINDENES	244.00	0.08	
46202		OCTAHYDROINDENES	244.00	0.04	(15)
46601	2782-91-4	TETRAMETHYLTHIOUREA	132.25	0.02	
46701	91-12-3	NAPTHALENE	128.17	0.10	(33)
46747		METHYLINDANS	132.21	0.01	
46748		METHYLDECALINS	152.28	0.00	(23)
46748		METHYLDECALINS	152.28	0.05	
46748		METHYLDECALINS	152.28	0.00	(25)
46748		METHYLDECALINS	152.28	0.00	(10)
46748		METHYLDECALINS	152.28	0.00	(21)
46748		METHYLDECALINS	152.28	0.03	(11)
46753	91-17-8	DECALINS	138.25	0.19	(18)
90010		M-XYLENE AND P-XYLENE	106.16	0.76	
90028		METHYLHEXANE	100.20	4.16	
90029		METHYLHEXENES	98.18	0.40	

VOC Profile Speciation Report - continued (profile 1192)

Saroad	CAS Number	Name	Spec_MW	Spec_WT	Peak
90047		METHYLNONANE	142.28	2.46	
90048		METHYLDECANES	156.32	1.46	
90049		METHYLUNDECANE	170.34	0.10	(29)
90064		DIMETHYLCYCLOPENTANE	98.19	2.31	
90066		NONADIENE	124.23	0.07	(2)
90067		DIMETHYLHEXANES	114.23	1.09	
90070		DIMETHYLOCTANES	142.28	0.59	
90070		DIMETHYLOCTANES	142.28	0.39	(4)
90071		DIMETHYLUNDECANE	184.36	0.00	(31)
90072		METHYLPROPYLCYCLOHEXANES	140.27	0.65	
90073		METHYLISOPROPYLCYCLOHEXANE	140.27	0.18	
90075		ETHYLOCTENE	140.27	0.14	
90076		DIMETHYLNONANES	156.31	0.49	
90076		DIMETHYLNONANES	156.31	0.21	(14)
90077		ETHYLOCTANE	142.29	0.08	
90080		ETHYLMETHYLCYCLOPENTANE	112.21	0.02	
90081		ETHYLHEXANE	114.23	0.16	
90083		ETHYLMETHYLCYCLOHEXANES	126.24	2.24	
90085		ETHYLMETHYLOCTANE	156.31	0.22	
90089		ETHYLDIMETHYLCYCLOHEXANE	140.27	0.04	
90090		ETHYLPROPYLCYCLOHEXANES	154.29	0.00	(19)
90090		ETHYLPROPYLCYCLOHEXANES	154.29	0.20	
90091		TETRAMETHYLCYCLOBUTENE	110.19	0.01	
90094		TRIMETHYLHEPTANES	142.29	0.71	
90096		TRIMETHYLOCTANES	156.31	0.15	
90096		TRIMETHYLOCTANES	156.31	0.00	(12)
90098		TETRAMETHYLCYCLOPENTANE	126.24	0.22	
90101	1678-93-9	BUTYLCYCLOHEXANE	140.27	0.53	
90102		METHYLPROPYLNONANE	184.36	0.11	(30)
90104		METHYLOCTANES	128.26	0.85	
90104		METHYLOCTANES	128.26	1.55	
90105		PROPENYLCYCLOHEXANE	124.33	0.07	
90106		METHYLNONENE	140.26	0.09	
90107		METHYLDECENE	154.29	0.25	(5)
90108		METHYLDODECANE	184.36	0.06	
98058		TRIMETHYLCYCLOPENTANE	112.16	1.17	(20)
98059		DIMETHYLCYCLOHEXANE	112.24	0.35	
98060	3073-66-3	TRIMETHYLCYCLOHEXANES	126.27	0.80	
98062		DIETHYLCYCLOHEXANE	140.27	0.25	
98063		N-PENTYLCYCLOHEXANE	154.30	0.16	
98082		ETHYLHEPTENE	126.24	0.10	
98091		DIMETHYLHEPTANES	128.26	0.05	
TOTAL				100.01	

VOC Profile Speciation Report

Profile Name : Drycleaning
Profile Number : 1193
Data Quality : B

Control Device : Uncontrolled
Reference(s) : 90
Data Source : Five mineral spirit samples from two companies combined in equal amounts by volume. Headspace analyzed by GC/MS

SCC Assignments: 40100102

Saroad	CAS Number	Name	Spec_MW	Spec_WT	Peak
43109		ISOMERS OF DECANE	142.28	11.28	
43110		ISOMERS OF UNDECANE	156.30	7.92	
43110		ISOMERS OF UNDECANE	156.30	0.00	(19)
43110		ISOMERS OF UNDECANE	156.30	0.00	(14)
43110		ISOMERS OF UNDECANE	156.30	0.00	(24)
43111		ISOMERS OF DODECANE	170.32	1.12	
43112		ISOMERS OF TRIDECANE	184.36	0.05	
43124		C9 OLEFINS	126.24	0.00	(3)
43124		C9 OLEFINS	126.24	0.02	
43125		C10 OLEFINS	140.27	0.42	(5)
43125		C10 OLEFINS	140.27	1.63	
43125		C10 OLEFINS	140.27	0.00	(7)
43125		C10 OLEFINS	140.27	0.10	(12)
43135		C10 PARAFFINS	142.28	0.74	
43135		C10 PARAFFINS	142.28	0.00	(6)
43135		C10 PARAFFINS	142.28	0.00	(4)
43136		C9 PARAFFIN	128.25	0.00	(2)
43138		C-8 OLEFINS	112.23	0.00	(1)
43146		C11 OLEFINS	154.29	0.10	(18)
43146		C11 OLEFINS	154.29	0.00	(17)
43146		C11 OLEFINS	154.29	0.88	
43146		C11 OLEFINS	154.29	0.00	(16)
43146		C11 OLEFINS	154.29	0.00	(6)
43146		C11 OLEFINS	154.29	0.00	(20)
43147		C12 OLEFINS	168.32	0.10	(25)
43147		C12 OLEFINS	168.32	0.02	
43147		C12 OLEFINS	168.32	0.00	(26)
43150		ISOMERS OF C10H18	138.25	0.07	
43150		ISOMERS OF C10H18	138.25	0.00	(5)
43150		ISOMERS OF C10H18	138.25	0.00	(11)
43151		ISOMERS OF C11H20	152.28	0.10	(9)
43151		ISOMERS OF C11H20	152.28	0.00	(12)
43151		ISOMERS OF C11H20	152.28	0.00	(15)
43151		ISOMERS OF C11H20	152.28	0.00	(25)
43151		ISOMERS OF C11H20	152.28	0.07	(22)
43151		ISOMERS OF C11H20	152.28	0.15	(14)
43151		ISOMERS OF C11H20	152.28	0.00	(8)
43153		C10H16	136.24	0.10	
43235	111-84-2	NONANE	128.25	6.96	
43261	108-87-2	METHYLCYCLOHEXANE	98.21	0.02	
43288	1678-91-7	ETHYLCYCLOHEXANE	112.23	0.59	

VOC Profile Speciation Report - continued (profile 1193)

Saroad	CAS Number	Name	Spec_MW	Spec_WT	Peak
43336		OCTANOL	130.26	0.10	
43397		TRIMETHYLCYCLOHEXANOL	142.24	0.17	
43566		TRIMETHYLCYCLOPENTANONE	126.20	0.15	(3)
43567		TETRAMETHYLPENTANONE	142.24	0.64	
45105		ISOMERS OF BUTYLBENZENE	134.22	1.89	(13)
45105		ISOMERS OF BUTYLBENZENE	134.22	1.00	
45105		ISOMERS OF BUTYLBENZENE	134.22	0.07	(23)
45105		ISOMERS OF BUTYLBENZENE	134.22	0.00	(18)
45105		ISOMERS OF BUTYLBENZENE	134.22	0.35	(19)
45105		ISOMERS OF BUTYLBENZENE	134.22	0.00	(9)
45105		ISOMERS OF BUTYLBENZENE	134.22	0.31	(24)
45105		ISOMERS OF BUTYLBENZENE	134.22	0.12	(10)
45105		ISOMERS OF BUTYLBENZENE	134.22	0.00	(21)
45107	25551-13-7	TRIMETHYLBENZENE	120.19	2.23	
45108		ISOMERS OF PROPYLBENZENE	120.19	0.98	
45108		ISOMERS OF PROPYLBENZENE	120.19	0.00	(6)
45113		C11H10	142.20	0.00	(23)
45202	108-88-3	TOLUENE	92.13	0.50	
45203	100-41-4	ETHYLBENZENE	106.16	0.35	
45204	95-47-6	O-XYLENE	106.16	1.56	
45209	103-65-1	N-PROPYLBENZENE	120.19	0.00	
45210	98-82-8	CUMENE (ISOPROPYL BENZENE)	120.20	0.34	
45215	98-06-6	TERT-BUTYLBENZENE	134.21	0.31	
45238		ETHYLTOLUENE	120.19	0.38	(7)
45245		C5-ALKYLBENZENES	148.24	0.10	(26)
45303		C4-ALKYLPHENOLS	150.22	0.38	
45304		C5-ALKYLPHENOLS	164.25	0.17	
45304		C5-ALKYLPHENOLS	164.25	0.00	(27)
45320		DIMETHYLBENZYLALCOHOL	136.19	0.15	
45801	108-90-7	CHLOROBENZENE	112.56	0.26	
45808	2531-22-6	DICHLOROBENZENES	147.01	0.00	(10)
46202		OCTAHYDROINDENES	244.00	0.17	
46601	2782-91-4	TETRAMETHYLTHIOUREA	132.25	0.05	
46602	95-16-9	BENZOTHIAZOLE	135.19	0.05	
46701	91-12-3	NAPTHALENE	128.17	0.35	(27)
46748		METHYLDECALINS	152.28	0.00	(22)
46748		METHYLDECALINS	152.28	0.55	
46753	91-17-8	DECALINS	138.25	0.07	
46753	91-17-8	DECALINS	138.25	0.53	(20)
90010		M-XYLENE AND P-XYLENE	106.16	2.26	
90045		METHYLHEPTANE	114.23	0.02	
90047		METHYLNONANE	142.28	4.17	
90048		METHYLDECANES	156.32	4.19	
90049		METHYLUNDECANE	170.34	0.91	
90055		PENTYLCYCLOHEXANE	154.29	0.43	
90066		NONADIENE	124.23	0.17	(4)
90070		DIMETHYLOCTANES	142.28	6.49	
90071		DIMETHYLUNDECANE	184.36	0.24	
90072		METHYLPROPYLCYCLOHEXANES	140.27	5.99	
90074		DIMETHYLDECANE	170.34	0.29	
90076		DIMETHYLNONANES	156.31	0.57	(15)
90076		DIMETHYLNONANES	156.31	0.57	(16)

VOC Profile Speciation Report - continued (profile 1193)

Saroad	CAS Number	Name	Spec_MW	Spec_WT	Peak
90076		DIMETHYLNONANES	156.31	1.34	
90077		ETHYLOCTANE	142.29	0.21	
90081		ETHYLHEXANE	114.23	0.34	
90082		ETHYLMETHYLHEXANE	128.26	0.10	
90083		ETHYLMETHYLCYCLOHEXANES	126.24	4.27	
90089		ETHYLDIMETHYLCYCLOHEXANE	140.27	0.95	
90090		ETHYLPROPYLCYCLOHEXANES	154.29	0.50	
90094		TRIMETHYLHEPTANES	142.29	3.58	
90094		TRIMETHYLHEPTANES	142.29	2.31	(6)
90095		TRIMETHYLHEXENE	126.24	0.35	
90096		TRIMETHYLOCTANES	156.31	0.35	(11)
90096		TRIMETHYLOCTANES	156.31	0.00	(13)
90097		TRIMETHYLDECANE	184.36	0.02	
90098		TETRAMETHYLCYCLOPENTANE	126.24	0.55	
90101	1678-93-9	BUTYLCYCLOHEXANE	140.27	1.68	
90104		METHYLOCTANES	128.26	1.49	
90105		PROPENYLCYCLOHEXANE	124.33	0.77	
90107		METHYLDECENE	154.29	0.67	
90109		PROPYLHEPTENES	140.27	0.34	
90109		PROPYLHEPTENES	140.27	0.21	(8)
90110		DIETHYLMETHYLCYCLOHEXANES	111.20	0.29	(21)
90110		DIETHYLMETHYLCYCLOHEXANES	111.20	0.26	
90111		ISOPROPYLMETHYLCYCLOHEXANE	140.27	0.43	
90112		DIMETHYLOCTYNE	138.25	0.10	(17)
90113		PENTYLIDENECYCLOHEXANE	152.00	0.17	
90114		DIMETHYLBUTYLCYCLOHEXANE	168.32	0.05	
90118		OCTAHYDROPENTALENE	225.20	0.10	
90120		PROPYLCYCLOHEXANE	126.24	2.11	
98059		DIMETHYLCYCLOHEXANE	112.24	0.47	
98060	3073-66-3	TRIMETHYLCYCLOHEXANES	126.27	1.72	
98060	3073-66-3	TRIMETHYLCYCLOHEXANES	126.27	0.29	(2)
98062		DIETHYLCYCLOHEXANE	140.27	0.45	
98091		DIMETHYLHEPTANES	128.26	0.45	
98091		DIMETHYLHEPTANES	128.26	0.10	(1)
TOTAL				100.04	

VOC Profile Speciation Report

Profile Name : Degreasing Composite
Profile Number : 1195
Data Quality : B

Control Device : Uncontrolled
Reference(s) : 90,92
Data Source : Composite profile developed using Profile 1192 and consumption data for solvents used in degreasing industry.

SCC Assignments: 40100215, 40100216, 40100217, 40100235, 40100236, 40100295, 40100296, 40100297 40100298, 40100299, 40100335, 40100336, 40100398, 40100399

Saroad	CAS Number	Name	Spec_MW	Spec_WT	Peak
43109		ISOMERS OF DECANE	142.28	1.33	
43110		ISOMERS OF UNDECANE	156.30	0.93	
43110		ISOMERS OF UNDECANE	156.30	0.00	(15)
43110		ISOMERS OF UNDECANE	156.30	0.00	(17)
43111		ISOMERS OF DODECANE	170.32	0.08	(25)
43111		ISOMERS OF DODECANE	170.32	0.14	
43111		ISOMERS OF DODECANE	170.32	0.06	(23)
43112		ISOMERS OF TRIDECANE	184.36	0.01	(27)
43113		ISOMERS OF TETRADECANE	198.38	0.03	(31)
43113		ISOMERS OF TETRADECANE	198.38	0.00	
43124		C9 OLEFINS	126.24	0.00	(2)
43124		C9 OLEFINS	126.24	0.00	(5)
43124		C9 OLEFINS	126.24	0.00	(3)
43125		C10 OLEFINS	140.27	0.01	(10)
43125		C10 OLEFINS	140.27	0.00	(7)
43125		C10 OLEFINS	140.27	0.34	
43125		C10 OLEFINS	140.27	0.00	(4)
43125		C10 OLEFINS	140.27	0.00	(8)
43125		C10 OLEFINS	140.27	0.00	(6)
43135		C10 PARAFFINS	142.28	0.00	(6)
43138		C-8 OLEFINS	112.23	0.15	(1)
43138		C-8 OLEFINS	112.23	0.16	
43141		C8 PARAFFIN	114.23	0.00	(1)
43146		C11 OLEFINS	154.29	0.00	(16)
43146		C11 OLEFINS	154.29	0.00	(15)
43146		C11 OLEFINS	154.29	0.07	
43146		C11 OLEFINS	154.29	0.00	(18)
43146		C11 OLEFINS	154.29	0.00	(14)
43146		C11 OLEFINS	154.29	0.02	(13)
43146		C11 OLEFINS	154.29	0.00	(24)
43147		C12 OLEFINS	168.32	0.01	(32)
43147		C12 OLEFINS	168.32	0.01	(25)
43147		C12 OLEFINS	168.32	0.00	(27)
43147		C12 OLEFINS	168.32	0.00	(26)
43147		C12 OLEFINS	168.32	0.00	
43147		C12 OLEFINS	168.32	0.00	(22)
43148		ISOMERS OF C9H16	124.23	0.02	
43148		ISOMERS OF C9H16	124.23	0.10	(3)
43150		ISOMERS OF C10H18	138.25	0.00	(11)

VOC Profile Speciation Report - continued (profile 1195)

Saroad	CAS Number	Name	Spec_MW	Spec_WT	Peak
43151		ISOMERS OF C11H20	152.28	0.00	(13)
43152		C12H22	166.31	0.00	(32)
43231	110-54-3	HEXANE	86.17	0.04	
43232	142-82-5	HEPTANE	100.20	8.44	
43235	111-84-2	NONANE	128.25	0.87	
43248	110-82-7	CYCLOHEXANE	84.16	0.10	
43261	108-87-2	METHYLCYCLOHEXANE	98.21	1.83	
43288	1678-91-7	ETHYLCYCLOHEXANE	112.23	0.08	
43314	78-92-2	S-BUTYL ALCOHOL	74.12	0.70	
43351	60-29-7	ETHYL ETHER	74.12	0.80	
43551	67-64-1	ACETONE	58.08	1.40	
43552	78-93-3	METHYL ETHYL KETONE	72.10	1.10	
43565		DIMETHYLCYCLOBUTANONE	98.14	0.06	
43802	75-09-2	DICHLOROMETHANE	84.94	4.10	
43814	71-55-6	1,1,1-TRICHLOROETHANE	133.42	22.29	
43817	127-18-4	PERCHLOROETHYLENE	165.83	7.40	
43821	76-13-1	TRICHLOROTRIFLUOROETHANE	187.38	4.10	
43824	79-01-6	TRICHLOROETHYLENE	131.40	21.09	
45102	1330-20-7	ISOMERS OF XYLENE	106.16	3.40	
45105		ISOMERS OF BUTYLBENZENE	134.22	0.04	(22)
45105		ISOMERS OF BUTYLBENZENE	134.22	0.03	(24)
45105		ISOMERS OF BUTYLBENZENE	134.22	0.00	(20)
45105		ISOMERS OF BUTYLBENZENE	134.22	0.03	(19)
45105		ISOMERS OF BUTYLBENZENE	134.22	0.00	(29)
45105		ISOMERS OF BUTYLBENZENE	134.22	0.03	
45105		ISOMERS OF BUTYLBENZENE	134.22	0.01	(21)
45105		ISOMERS OF BUTYLBENZENE	134.22	0.01	(9)
45105		ISOMERS OF BUTYLBENZENE	134.22	0.01	(8)
45105		ISOMERS OF BUTYLBENZENE	134.22	0.03	(17)
45105		ISOMERS OF BUTYLBENZENE	134.22	0.21	(12)
45105		ISOMERS OF BUTYLBENZENE	134.22	0.01	(16)
45107	25551-13-7	TRIMETHYLBENZENE	120.19	0.31	
45108		ISOMERS OF PROPYLBENZENE	120.19	0.05	(7)
45108		ISOMERS OF PROPYLBENZENE	120.19	0.23	(6)
45201	71-43-2	BENZENE	78.11	1.00	
45202	108-88-3	TOLUENE	92.13	8.29	
45204	95-47-6	O-XYLENE	106.16	0.17	
45209	103-65-1	N-PROPYLBENZENE	120.19	0.05	
45210	98-82-8	CUMENE (ISOPROPYL BENZENE)	120.20	0.03	
45245		C5-ALKYLBENZENES	148.24	0.00	(28)
45245		C5-ALKYLBENZENES	148.24	0.00	(27)
45245		C5-ALKYLBENZENES	148.24	0.02	
45245		C5-ALKYLBENZENES	148.24	0.00	(30)
45245		C5-ALKYLBENZENES	148.24	0.01	(26)
45303		C4-ALKYLPHENOLS	150.22	0.04	
45304		C5-ALKYLPHENOLS	164.25	0.00	(33)
45304		C5-ALKYLPHENOLS	164.25	0.02	
45320		DIMETHYLBENZYLALCOHOL	136.19	0.02	
45808	2531-22-6	DICHLOROBENZENES	147.01	0.00	(9)
46202		OCTAHYDROINDENES	244.00	0.02	
46202		OCTAHYDROINDENES	244.00	0.01	(15)
46601	2782-91-4	TETRAMETHYLTHIOUREA	132.25	0.01	

VOC Profile Speciation Report - continued (profile 1195)

Saroad	CAS Number	Name	Spec_MW	Spec_WT	Peak
46701	91-12-3	NAPTHALENE	128.17	0.03	(33)
46747		METHYLINDANS	132.21	0.00	
46748		METHYLDECALINS	152.28	0.02	
46748		METHYLDECALINS	152.28	0.00	(10)
46748		METHYLDECALINS	152.28	0.00	(21)
46748		METHYLDECALINS	152.28	0.00	(23)
46748		METHYLDECALINS	152.28	0.00	(25)
46748		METHYLDECALINS	152.28	0.01	(11)
46753	91-17-8	DECALINS	138.25	0.06	(18)
90010		M-XYLENE AND P-XYLENE	106.16	0.23	
90028		METHYLHEXANE	100.20	1.27	
90029		METHYLHEXENES	98.18	0.12	
90047		METHYLNONANE	142.28	0.75	
90048		METHYLDECANES	156.32	0.45	
90049		METHYLUNDECANE	170.34	0.03	(29)
90064		DIMETHYLCYCLOPENTANE	98.19	0.71	
90066		NONADIENE	124.23	0.02	(2)
90067		DIMETHYLHEXANES	114.23	0.33	
90070		DIMETHYLOCTANES	142.28	0.18	
90070		DIMETHYLOCTANES	142.28	0.12	(4)
90071		DIMETHYLUNDECANE	184.36	0.00	(31)
90072		METHYLPROPYLCYCLOHEXANES	140.27	0.20	
90073		METHYLISOPROPYLCYCLOHEXANE	140.27	0.06	
90075		ETHYLOCTENE	140.27	0.04	
90076		DIMETHYLNONANES	156.31	0.15	
90076		DIMETHYLNONANES	156.31	0.06	(14)
90077		ETHYLOCTANE	142.29	0.02	
90080		ETHYLMETHYLCYCLOPENTANE	112.21	0.01	
90081		ETHYLHEXANE	114.23	0.05	
90083		ETHYLMETHYLCYCLOHEXANES	126.24	0.69	
90085		ETHYLMETHYLOCTANE	156.31	0.07	
90089		ETHYLDIMETHYLCYCLOHEXANE	140.27	0.01	
90090		ETHYLPROPYLCYCLOHEXANES	154.29	0.00	(19)
90090		ETHYLPROPYLCYCLOHEXANES	154.29	0.06	
90091		TETRAMETHYLCYCLOBUTENE	110.19	0.00	
90094		TRIMETHYLHEPTANES	142.29	0.22	
90096		TRIMETHYLOCTANES	156.31	0.05	
90096		TRIMETHYLOCTANES	156.31	0.00	(12)
90098		TETRAMETHYLCYCLOPENTANE	126.24	0.07	
90101	1678-93-9	BUTYLCYCLOHEXANE	140.27	0.16	
90102		METHYLPROPYLNONANE	184.36	0.03	(30)
90104		METHYLOCTANES	128.26	0.26	
90104		METHYLOCTANES	128.26	0.47	
90105		PROPENYLCYCLOHEXANE	124.33	0.02	
90106		METHYLNONENE	140.26	0.03	
90107		METHYLDECENE	154.29	0.08	(5)
90108		METHYLDODECANE	184.36	0.02	
98058		TRIMETHYLCYCLOPENTANE	112.16	0.36	(20)
98059		DIMETHYLCYCLOHEXANE	112.24	0.11	
98060	3073-66-3	TRIMETHYLCYCLOHEXANES	126.27	0.24	
98062		DIETHYLCYCLOHEXANE	140.27	0.08	
98063		N-PENTYLCYCLOHEXANE	154.30	0.05	

VOC Profile Speciation Report - continued (profile 1195)

Saroad	CAS Number	Name	Spec_MW	Spec_WT	Peak
98082		ETHYLHEPTENE	126.24	0.03	
98091		DIMETHYLHEPTANES	128.26	0.02	
TOTAL				100.01	

VOC Profile Speciation Report

Profile Name : Drycleaning Composite
Profile Number : 1196
Data Quality : B

Control Device : Uncontrolled
Reference(s) : 90,91
Data Source : Composite profile developed from Profile 1193 and consumption data for solvent usage in drycleaning industry.

SCC Assignments: 40100198

Saroad	CAS Number	Name	Spec_MW	Spec_WT	Peak
43109		ISOMERS OF DECANE	142.28	1.74	
43110		ISOMERS OF UNDECANE	156.30	1.22	
43110		ISOMERS OF UNDECANE	156.30	0.00	(14)
43110		ISOMERS OF UNDECANE	156.30	0.00	(19)
43110		ISOMERS OF UNDECANE	156.30	0.00	(24)
43111		ISOMERS OF DODECANE	170.32	0.17	
43112		ISOMERS OF TRIDECANE	184.36	0.01	
43124		C9 OLEFINS	126.24	0.00	
43124		C9 OLEFINS	126.24	0.00	(3)
43125		C10 OLEFINS	140.27	0.01	(12)
43125		C10 OLEFINS	140.27	0.00	(7)
43125		C10 OLEFINS	140.27	0.07	(5)
43125		C10 OLEFINS	140.27	0.25	
43135		C10 PARAFFINS	142.28	0.00	(4)
43135		C10 PARAFFINS	142.28	0.00	(6)
43135		C10 PARAFFINS	142.28	0.11	
43136		C9 PARAFFIN	128.25	0.00	(2)
43138		C-8 OLEFINS	112.23	0.00	(1)
43146		C11 OLEFINS	154.29	0.00	(6)
43146		C11 OLEFINS	154.29	0.00	(16)
43146		C11 OLEFINS	154.29	0.00	(20)
43146		C11 OLEFINS	154.29	0.01	(18)
43146		C11 OLEFINS	154.29	0.13	
43146		C11 OLEFINS	154.29	0.00	(17)
43147		C12 OLEFINS	168.32	0.01	(25)
43147		C12 OLEFINS	168.32	0.00	(26)
43147		C12 OLEFINS	168.32	0.00	
43150		ISOMERS OF C10H18	138.25	0.00	(5)
43150		ISOMERS OF C10H18	138.25	0.01	
43150		ISOMERS OF C10H18	138.25	0.00	(11)
43151		ISOMERS OF C11H20	152.28	0.00	(15)
43151		ISOMERS OF C11H20	152.28	0.01	(22)
43151		ISOMERS OF C11H20	152.28	0.00	(25)
43151		ISOMERS OF C11H20	152.28	0.00	(8)
43151		ISOMERS OF C11H20	152.28	0.01	(9)
43151		ISOMERS OF C11H20	152.28	0.00	(12)
43151		ISOMERS OF C11H20	152.28	0.02	(14)
43153		C10H16	136.24	0.01	
43235	111-84-2	NONANE	128.25	1.07	
43261	108-87-2	METHYLCYCLOHEXANE	98.21	0.00	

VOC Profile Speciation Report - continued (profile 1196)

Saroad	CAS Number	Name	Spec_MW	Spec_WT	Peak
43288	1678-91-7	ETHYLCYCLOHEXANE	112.23	0.09	
43336		OCTANOL	130.26	0.01	
43397		TRIMETHYLCYCLOHEXANOL	142.24	0.03	
43566		TRIMETHYLCYCLOPENTANONE	126.20	0.02	(3)
43567		TETRAMETHYLPENTANONE	142.24	0.10	
43817	127-18-4	PERCHLOROETHYLENE	165.83	82.09	
43821	76-13-1	TRICHLOROTRIFLUOROETHANE	187.38	3.00	
45105		ISOMERS OF BUTYLBENZENE	134.22	0.29	(13)
45105		ISOMERS OF BUTYLBENZENE	134.22	0.01	(23)
45105		ISOMERS OF BUTYLBENZENE	134.22	0.05	(19)
45105		ISOMERS OF BUTYLBENZENE	134.22	0.05	(24)
45105		ISOMERS OF BUTYLBENZENE	134.22	0.00	(21)
45105		ISOMERS OF BUTYLBENZENE	134.22	0.00	(18)
45105		ISOMERS OF BUTYLBENZENE	134.22	0.02	(10)
45105		ISOMERS OF BUTYLBENZENE	134.22	0.15	
45105		ISOMERS OF BUTYLBENZENE	134.22	0.00	(9)
45107	25551-13-7	TRIMETHYLBENZENE	120.19	0.34	
45108		ISOMERS OF PROPYLBENZENE	120.19	0.15	
45108		ISOMERS OF PROPYLBENZENE	120.19	0.00	(6)
45113		C11H10	142.20	0.00	(23)
45202	108-88-3	TOLUENE	92.13	0.08	
45203	100-41-4	ETHYLBENZENE	106.16	0.05	
45204	95-47-6	O-XYLENE	106.16	0.24	
45209	103-65-1	N-PROPYLBENZENE	120.19	0.05	
45210	98-82-8	CUMENE (ISOPROPYL BENZENE)	120.20	0.05	
45215	98-06-6	TERT-BUTYLBENZENE	134.21	0.05	
45238		ETHYLTOLUENE	120.19	0.06	(7)
45245		C5-ALKYLBENZENES	148.24	0.01	(26)
45303		C4-ALKYLPHENOLS	150.22	0.06	
45304		C5-ALKYLPHENOLS	164.25	0.00	(27)
45304		C5-ALKYLPHENOLS	164.25	0.03	
45320		DIMETHYLBENZYLALCOHOL	136.19	0.02	
45801	108-90-7	CHLOROBENZENE	112.56	0.04	
45808	2531-22-6	DICHLOROBENZENES	147.01	0.00	(10)
46202		OCTAHYDROINDENES	244.00	0.03	
46601	2782-91-4	TETRAMETHYLTHIOUREA	132.25	0.01	
46602	95-16-9	BENZOTHIAZOLE	135.19	0.01	
46701	91-12-3	NAPTHALENE	128.17	0.05	(27)
46748		METHYLDECALINS	152.28	0.08	
46748		METHYLDECALINS	152.28	0.00	(22)
46753	91-17-8	DECALINS	138.25	0.08	(20)
46753	91-17-8	DECALINS	138.25	0.01	
90010		M-XYLENE AND P-XYLENE	106.16	0.35	
90045		METHYLHEPTANE	114.23	0.00	
90047		METHYLNONANE	142.28	0.64	
90048		METHYLDECANES	156.32	0.64	
90049		METHYLUNDECANE	170.34	0.14	
90055		PENTYLCYCLOHEXANE	154.29	0.07	
90066		NONADIENE	124.23	0.03	(4)
90070		DIMETHYLOCTANES	142.28	1.00	
90071		DIMETHYLUNDECANE	184.36	0.04	
90072		METHYLPROPYLCYCLOHEXANES	140.27	0.48	

VOC Profile Speciation Report - continued (profile 1196)

Saroad	CAS Number	Name	Spec_MW	Spec_WT	Peak
90074		DIMETHYLDECANE	170.34	0.04	
90076		DIMETHYLNONANES	156.31	0.09	(16)
90076		DIMETHYLNONANES	156.31	0.21	
90076		DIMETHYLNONANES	156.31	0.09	(15)
90077		ETHYLOCTANE	142.29	0.03	
90081		ETHYLHEXANE	114.23	0.05	
90082		ETHYLMETHYLHEXANE	128.26	0.01	
90083		ETHYLMETHYLCYCLOHEXANES	126.24	0.66	
90089		ETHYLDIMETHYLCYCLOHEXANE	140.27	0.15	
90090		ETHYLPROPYLCYCLOHEXANES	154.29	0.08	
90094		TRIMETHYLHEPTANES	142.29	0.55	
90094		TRIMETHYLHEPTANES	142.29	0.35	(6)
90095		TRIMETHYLHEXENE	126.24	0.05	
90096		TRIMETHYLOCTANES	156.31	0.00	(13)
90096		TRIMETHYLOCTANES	156.31	0.05	(11)
90097		TRIMETHYLDECANE	184.36	0.00	
90098		TETRAMETHYLCYCLOPENTANE	126.24	0.08	
90101	1678-93-9	BUTYLCYCLOHEXANE	140.27	0.26	
90104		METHYLOCTANES	128.26	0.23	
90105		PROPENYLCYCLOHEXANE	124.33	0.12	
90107		METHYLDECENE	154.29	0.10	
90109		PROPYLHEPTENES	140.27	0.05	
90109		PROPYLHEPTENES	140.27	0.03	(8)
90110		DIETHYLMETHYLCYCLOHEXANES	111.20	0.04	(21)
90110		DIETHYLMETHYLCYCLOHEXANES	111.20	0.04	
90111		ISOPROPYLMETHYLCYCLOHEXANE	140.27	0.07	
90112		DIMETHYLOCTYNE	138.25	0.01	(17)
90113		PENTYLIDENECYCLOHEXANE	152.00	0.03	
90114		DIMETHYLBUTYLCYCLOHEXANE	168.32	0.01	
90118		OCTAHYDROPENTALENE	225.20	0.01	
90120		PROPYLCYCLOHEXANE	126.24	0.33	
98059		DIMETHYLCYCLOHEXANE	112.24	0.07	
98060	3073-66-3	TRIMETHYLCYCLOHEXANES	126.27	0.26	
98060	3073-66-3	TRIMETHYLCYCLOHEXANES	126.27	0.04	(2)
98062		DIETHYLCYCLOHEXANE	140.27	0.07	
98091		DIMETHYLHEPTANES	128.26	0.07	
98091		DIMETHYLHEPTANES	128.26	0.01	(1)
TOTAL				100.00	

3.19 SURFACE COATING OPERATIONS

Surface coating operations primarily involve the application of paint, varnish/shellac, lacquer, enamel, or paint primer for surface decoration and/or protection before products are marketed. Adhesives, as the name implies, involve the application of a bonding agent for the purpose of adhering materials together. A number of basic industrial coating operations are utilized, including spraying, flowcoating, roller coating, dipping and electro-coating. There are variations and combinations of these operations, each designed for a special task. The coatings applied in these operations vary widely as to composition and physical properties. In order to accelerate the drying of the solvents used in the surface coatings, a drying or baking operation is usually an integral part of the basic coating process.

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VOC Profile Speciation Report
-------------------------------------------------------------------------------------
Profile Name   : Surface Coating - Varnish/Shellac
Profile Number : 0127
Data Quality   : D
-------------------------------------------------------------------------------------
Control Device : Uncontrolled
Reference(s)   : 59
Data Source    : Engineering evaluation of literature test data.

SCC Assignments: 40200301, 40200310

-------------------------------------------------------------------------------------
Saroad      CAS Number      Name                              Spec_MW   Spec_WT   Peak
-------------------------------------------------------------------------------------
43367         111-46-6      GLYCOL ETHER                       106.14      3.00
43551          67-64-1      ACETONE                             58.08     38.70
43552          78-93-3      METHYL ETHYL KETONE                 72.10     41.60
43560         108-10-1      METHYL ISOBUTYL KETONE             100.16     16.70
-------------------------------------------------------------------------------------
TOTAL                                                                    100.00
=====================================================================================
```

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```
VOC Profile Speciation Report
-------------------------------------------------------------------------------------
Profile Name   : Surface Coating Paint Solvent - Acetone
Profile Number : 0219
Data Quality   : E
-------------------------------------------------------------------------------------
Control Device : Uncontrolled
Reference(s)   : 59
Data Source    : Engineering judgement; information based on composite
                 survey data and inspection of solvent information.

SCC Assignments: 40200902

-------------------------------------------------------------------------------------
Saroad      CAS Number      Name                              Spec_MW  Spec_WT  Peak
-------------------------------------------------------------------------------------
43551         67-64-1       ACETONE                            58.08    100.00
-------------------------------------------------------------------------------------
TOTAL                                                                   100.00
=====================================================================================
```

VOC Profile Speciation Report

Profile Name : Paint Solvent - Ethyl Acetate
Profile Number : 0220
Data Quality : E

Control Device : Uncontrolled
Reference(s) : 59
Data Source : Engineering judgement; information based on composite survey data and inspection of solvent information.

SCC Assignments: 40200909

Saroad	CAS Number	Name	Spec_MW	Spec_WT	Peak
43433	141-78-6	ETHYL ACETATE	88.10	100.00	
TOTAL				100.00	

```
VOC Profile Speciation Report
--------------------------------------------------------------------------------
Profile Name   : Paint Solvent - Methyl Ethyl Ketone
Profile Number : 0221
Data Quality   : E
--------------------------------------------------------------------------------
Control Device : None
Reference(s)   : 59
Data Source    : Engineering judgement; information based on composite
                 survey data and inspection of solvent information.

SCC Assignments: 40200918

--------------------------------------------------------------------------------
Saroad      CAS Number      Name                          Spec_MW   Spec_WT   Peak
--------------------------------------------------------------------------------
43552         78-93-3       METHYL ETHYL KETONE             72.10    100.00
--------------------------------------------------------------------------------
TOTAL                                                                100.00
================================================================================
VOC Profile Speciation Report
-------------------------------------------------------------------------------------
Profile Name   : Surface Coating - Enamel Cellosolve Acetate
Profile Number : 0222
Data Quality   : E
-------------------------------------------------------------------------------------
Control Device : Uncontrolled
Reference(s)   : 59
Data Source    : Engineering judgement; information based on composite
                 survey data and inspection of solvent formulation.

SCC Assignments: 40200907

-------------------------------------------------------------------------------------
Saroad      CAS Number     Name                               Spec_MW   Spec_WT   Peak
-------------------------------------------------------------------------------------
43452        111-15-9      CELLOSOLVE ACETATE                  132.16    100.00
-------------------------------------------------------------------------------------
TOTAL                                                                    100.00
=====================================================================================
VOC Profile Speciation Report
-----------------------------------------------------------------------------------------
Profile Name   : Surface Coating - Varnish/Shellac Solvent - Xylene
Profile Number : 0223
Data Quality   : E
-----------------------------------------------------------------------------------------
Control Device : Uncontrolled
Reference(s)   : 59
Data Source    : Engineering judgement; information based on composite
                 survey data and inspection of solvent formulation.

SCC Assignments: 40200924

-----------------------------------------------------------------------------------------
Saroad       CAS Number       Name                              Spec_MW   Spec_WT   Peak
-----------------------------------------------------------------------------------------
45102         1330-20-7       ISOMERS OF XYLENE                 106.16     100.00
-----------------------------------------------------------------------------------------
TOTAL                                                                      100.00
=========================================================================================
VOC Profile Speciation Report
------------------ ---------------------------------------------------------------
Profile Name   : Surface Coating - Primer - Mineral Spirits
Profile Number : 0225
Data Quality   : B
---------------------------------------------------------------------------------
Control Device : Uncontrolled
Reference(s)   : 59
Data Source    : Engineering judgement, information based oncomposite
                 survey data, inspection of solvent formulation.

SCC Assignments: 40200920

---------------------------------------------------------------------------------
Saroad      CAS Number      Name                            Spec_MW   Spec_WT   Peak
---------------------------------------------------------------------------------
43107                       ISOMERS OF OCTANE               114.23      0.80
43108                       ISOMERS OF NONANE               128.25     27.30
43109                       ISOMERS OF DECANE               142.28     69.30
43110                       ISOMERS OF UNDECANE             156.30      2.60
---------------------------------------------------------------------------------
TOTAL                                                                 100.00
=================================================================================
VOC Profile Speciation Report
------------------------------------------------------------------------------------
Profile Name   : Surface Coating Solvent - Ethyl Alcohol
Profile Number : 0226
Data Quality   : E
------------------------------------------------------------------------------------
Control Device : Uncontrolled
Reference(s)   : 59
Data Source    : Engineering judgement; calculations from composite
                 survey data and inspection of solvent formulation.

SCC Assignments: 40200910

------------------------------------------------------------------------------------
Saroad     CAS Number     Name                              Spec_MW   Spec_WT   Peak
------------------------------------------------------------------------------------
43302        64-17-5      ETHYL ALCOHOL                      46.07     100.00
------------------------------------------------------------------------------------
TOTAL                                                                  100.00
====================================================================================
VOC Profile Speciation Report
--------------------------------------------------------------------------------------
Profile Name   : Surface Coating Solvent - Isopropyl Alcohol
Profile Number : 0227
Data Quality   : E
--------------------------------------------------------------------------------------
Control Device : Uncontrolled
Reference(s)   : 59
Data Source    : Engineering judgement; information based on composite
                 survey data and inspection of solvent formulation.

SCC Assignments: 40200912

--------------------------------------------------------------------------------------
Saroad      CAS Number      Name                               Spec_MW   Spec_WT   Peak
--------------------------------------------------------------------------------------
43304         67-63-0       ISO-PROPYL ALCOHOL                   60.09    100.00
--------------------------------------------------------------------------------------
TOTAL                                                                     100.00
======================================================================================
```

VOC Profile Speciation Report

Profile Name : Surface Coating Solvent - Isopropyl Acetate
Profile Number : 0228
Data Quality : E

Control Device : Uncontrolled
Reference(s) : 59
Data Source : Engineering judgement; information based on composite survey data and inspection of solvent formulation.

SCC Assignments: 40200913

Saroad	CAS Number	Name	Spec_MW	Spec_WT	Peak
43444	108-21-4	ISOPROPYL ACETATE	102.13	100.00	
TOTAL				100.00	

```
VOC Profile Speciation Report
--------------------------------------------------------------------------------
Profile Name   : Surface Coating Solvent - Lactol Spirits
Profile Number : 0229
Data Quality   : E
--------------------------------------------------------------------------------
Control Device : Uncontrolled
Reference(s)   : 59
Data Source    : Engineering judgement; information based on composite
                 survey data and inspection of solvent formulation.

SCC Assignments: 40200915

--------------------------------------------------------------------------------
Saroad      CAS Number    Name                              Spec_MW   Spec_WT   Peak
--------------------------------------------------------------------------------
43119                     LACTOL SPIRITS                    114.00    100.00
--------------------------------------------------------------------------------
TOTAL                                                                 100.00
================================================================================
VOC Profile Speciation Report
--------------------------------------------------------------------------------
Profile Name   : Surface Coating Primer - Naptha
Profile Number : 0282
Data Quality   : E
--------------------------------------------------------------------------------
Control Device : Uncontrolled
Reference(s)   : 59
Data Source    : Engineering judgement; information based on composite
                 survey data and inspection of solvent formulation.

SCC Assignments: 40200921

--------------------------------------------------------------------------------
Saroad      CAS Number      Name                              Spec_MW   Spec_WT   Peak
--------------------------------------------------------------------------------
45101        8030-30-6      NAPHTHA                            114.00    100.00
--------------------------------------------------------------------------------
TOTAL                                                                    100.00
================================================================================
```

VOC Profile Speciation Report

Profile Name : Surface Coating Solvent - Butyl Acetate
Profile Number : 0288
Data Quality : E

Control Device : Uncontrolled
Reference(s) : 59
Data Source : Engineering judgement; information based on composite survey data and inspection of solvent formulation.

SCC Assignments: 40200903

Saroad	CAS Number	Name	Spec_MW	Spec_WT	Peak
43435	138-22-7	N-BUTYL ACETATE	116.16	100.00	
TOTAL				100.00	

```
VOC Profile Speciation Report
--------------------------------------------------------------------------------
Profile Name   : Surface Coating Solvent - Butyl Alcohol
Profile Number : 0289
Data Quality   : E
--------------------------------------------------------------------------------
Control Device : Uncontrolled
Reference(s)   : 59
Data Source    : Engineering judgement; information based on composite
                 survey data and inspection of solvent formulation.

SCC Assignments: 40200904

--------------------------------------------------------------------------------
Saroad      CAS Number       Name                            Spec_MW  Spec_WT  Peak
--------------------------------------------------------------------------------
43305          71-36-3       N-BUTYL ALCOHOL                   74.12   100.00
--------------------------------------------------------------------------------
TOTAL                                                                  100.00
================================================================================
VOC Profile Speciation Report
--------------------------------------------------------------------------------
Profile Name   : Surface Coating Solvent - Cellosolve
Profile Number : 0290
Data Quality   : E
--------------------------------------------------------------------------------
Control Device : Uncontrolled
Reference(s)   : 59
Data Source    : Engineering judgement; information based on composite
                 survey data and inspection of solvent formulation.

SCC Assignments: 40200906

--------------------------------------------------------------------------------
Saroad      CAS Number      Name                              Spec_MW  Spec_WT  Peak
--------------------------------------------------------------------------------
43311        110-80-5       CELLOSOLVE                          90.12   100.00
--------------------------------------------------------------------------------
TOTAL                                                                   100.00
================================================================================
VOC Profile Speciation Report
------------------------------------------------------------------------------------
Profile Name   : Surface Coating Solvent - Methyl Alcohol
Profile Number : 0291
Data Quality   : E
------------------------------------------------------------------------------------
Control Device : Uncontrolled
Reference(s)   : 59
Data Source    : Engineering judgement; information based on composite
                 survey data and inspection of solvent formulation.

SCC Assignments: 40200917

------------------------------------------------------------------------------------
Saroad      CAS Number     Name                                 Spec_MW  Spec_WT  Peak
------------------------------------------------------------------------------------
43301          67-56-1     METHYL ALCOHOL                         32.04   100.00
------------------------------------------------------------------------------------
TOTAL                                                                     100.00
====================================================================================
VOC Profile Speciation Report
-------------------------------------------------------------------------------
Profile Name   : Surface Coating Solvent - Dimethylformamide
Profile Number : 0292
Data Quality   : E
-------------------------------------------------------------------------------
Control Device : Uncontrolled
Reference(s)   : 59
Data Source    : Engineering judgement; information based on composite
                 survey data and inspection of solvent formulation.

SCC Assignments: 40200908

-------------------------------------------------------------------------------
Saroad      CAS Number      Name                               Spec_MW  Spec_WT  Peak
-------------------------------------------------------------------------------
43450        68-12-2        DIMETHYL FORMAMIDE                   73.09   100.00
-------------------------------------------------------------------------------
TOTAL                                                                    100.00
===============================================================================
```

VOC Profile Speciation Report

Profile Name : Surface Coating Operations - Coating Application -Solvent-base Paint
Profile Number : 1003
Data Quality : B

Control Device : Uncontrolled
Reference(s) : 1
Data Source : Composite of profiles 1017 (lacquer), 1019 (primer), and 1018 (enamel) in proportion to individual emission totals for the South Coast Air Basin.

SCC Assignments: 40200101, 40200110

Saroad	CAS Number	Name	Spec_MW	Spec_WT	Peak
43108		ISOMERS OF NONANE	128.25	2.79	
43232	142-82-5	HEPTANE	100.20	2.94	
43247	108-08-7	2,4-DIMETHYLPENTANE	100.20	1.70	
43248	110-82-7	CYCLOHEXANE	84.16	0.52	
43261	108-87-2	METHYLCYCLOHEXANE	98.21	3.61	
43277		2,4-DIMETHYLHEXANE	114.22	7.20	
43288	1678-91-7	ETHYLCYCLOHEXANE	112.23	1.43	
43308	111-76-2	BUTYL CELLOSOLVE	118.17	6.48	
43433	141-78-6	ETHYL ACETATE	88.10	2.04	
43435	138-22-7	N-BUTYL ACETATE	116.16	9.50	
43459		C5 ESTER	130.19	1.26	
43551	67-64-1	ACETONE	58.08	1.27	
43552	78-93-3	METHYL ETHYL KETONE	72.10	0.54	
43560	108-10-1	METHYL ISOBUTYL KETONE	100.16	0.36	
43562	110-43-0	METHYL AMYL KETONE	114.21	0.83	
43563	7379-12-6	2-METHYL-3-HEXANONE	114.19	3.75	
45102	1330-20-7	ISOMERS OF XYLENE	106.16	3.70	
45104		ISOMERS OF ETHYLTOLUENE	120.19	0.20	
45107	25551-13-7	TRIMETHYLBENZENE	120.19	0.11	
45202	108-88-3	TOLUENE	92.13	37.87	
45203	100-41-4	ETHYLBENZENE	106.16	0.54	
45204	95-47-6	O-XYLENE	106.16	4.47	
98057	1640-89-7	ETHYLCYCLOPENTANE	98.19	0.22	
98058		TRIMETHYLCYCLOPENTANE	112.16	0.17	
98059		DIMETHYLCYCLOHEXANE	112.24	4.01	
98060	3073-66-3	TRIMETHYLCYCLOHEXANES	126.27	1.66	
98090		METHYLHEPTENE	112.22	0.15	
98091		DIMETHYLHEPTANES	128.26	0.67	
TOTAL				99.99	

VOC Profile Speciation Report

Profile Name : Surface Coating Operations - Coating Application - Water-Base Paint
Profile Number : 1013
Data Quality : B

Control Device : Uncontrolled
Reference(s) : 1
Data Source : Seven coatings with the largest emissions in California representing four product types were combined in proportion to 1980 California sales and the composite was distilled. The organic and aqueous layers of the distillate were analyzed by GC/MS.

SCC Assignments: 40200201, 40200210

Saroad	CAS Number	Name	Spec_MW	Spec_WT	Peak
43110		ISOMERS OF UNDECANE	156.30	1.00	
43238	124-18-5	N-DECANE	142.28	0.21	
43241	1120-21-4	N-UNDECANE	156.31	0.12	
43305	71-36-3	N-BUTYL ALCOHOL	74.12	20.09	
43312	112-34-5	2-(2-BUTOXYETHOXY)-ETHANOL	162.26	0.78	
43313		1-ETHOXY-2-PROPANOL	104.15	1.46	
43318	104-76-7	2-ETHYL HEXANOL	130.23	1.01	
43320	123-42-2	DIACETONE ALCOHOL	116.18	0.78	
43370	107-21-1	ETHYLENE GLYCOL	62.07	0.58	
43371	107-41-5	HEXYLENE GLYCOL	118.18	1.43	
43372	142-96-1	DIBUTYL ETHER	130.23	0.24	
43391		2-BUTYLTETRAHYDROFURAN	128.19	0.15	
43453	108-05-4	VINYL ACETATE	86.09	0.12	
43454	112-39-0	METHYL PALMITATE	270.46	0.36	
43457	109-87-5	METHYLAL	76.11	26.97	
43458		SUBSTITUTED C9 ESTER (C12)	218.24	28.58	
43562	110-43-0	METHYL AMYL KETONE	114.21	1.04	
43801	74-87-3	METHYL CHLORIDE	50.49	0.55	
43802	75-09-2	DICHLOROMETHANE	84.94	5.52	
43812	75-00-3	ETHYL CHLORIDE	64.52	0.62	
43835	78-86-4	1-CHLOROBUTANE	92.57	2.21	
43836		3-(CHLOROMETHYL)-HEPTANE	148.68	0.62	
45201	71-43-2	BENZENE	78.11	0.36	
98106		ETHYLISOPROPYL ETHER	88.15	5.20	
TOTAL				100.00	

VOC Profile Speciation Report

Profile Name : Surface Coating Operations - Thinning Solvents - Composite
Profile Number : 1016
Data Quality : B

Control Device : Uncontrolled
Reference(s) : 1
Data Source : A composite sample was prepared based on sales volume from nine commercially available solvents used with architectural coatings. The composite was distilled and the distillate analyzed by GC and GC/MS.

SCC Assignments: 40200901

Saroad	CAS Number	Name	Spec_MW	Spec_WT	Peak
43108		ISOMERS OF NONANE	128.25	5.24	
43109		ISOMERS OF DECANE	142.28	6.47	
43110		ISOMERS OF UNDECANE	156.30	1.63	
43125		C10 OLEFINS	140.27	7.18	
43126		C2 CYCLOHEXANE	112.22	2.89	
43127		C3 CYCLOHEXANE	126.24	1.99	
43128		C5 CYCLOHEXANE	154.30	0.91	
43129		C4 SUBSTITUTED CYCLOHEXANE	140.27	2.89	
43150		ISOMERS OF C10H18	138.25	4.45	
43232	142-82-5	HEPTANE	100.20	3.07	
43241	1120-21-4	N-UNDECANE	156.31	2.51	
43261	108-87-2	METHYLCYCLOHEXANE	98.21	6.72	
43304	67-63-0	ISO-PROPYL ALCOHOL	60.09	4.91	
43435	138-22-7	N-BUTYL ACETATE	116.16	9.27	
43552	78-93-3	METHYL ETHYL KETONE	72.10	4.06	
43570		ALKENE KETONE	72.10	1.99	
43802	75-09-2	DICHLOROMETHANE	84.94	1.22	
43837	106-93-4	ETHYLENE DIBROMIDE	187.88	0.91	
45202	108-88-3	TOLUENE	92.13	15.22	
45203	100-41-4	ETHYLBENZENE	106.16	0.93	
45205	108-38-3	M-XYLENE	106.16	1.65	
45206	106-42-3	P-XYLENE	106.16	1.07	
45501	100-52-7	BENZALDEHYDE	106.13	0.76	
45502	104-87-0	P-TOLUALDEHYDE	120.16	1.05	
45601	85-44-9	PHTHALIC ANHYDRIDE	148.12	0.76	
98062		DIETHYLCYCLOHEXANE	140.27	7.96	
98082		ETHYLHEPTENE	126.24	2.26	
TOTAL				99.97	

VOC Profile Speciation Report

Profile Name : Surface Coating Operations - Coating Application - Lacquer
Profile Number : 1017
Data Quality : B

Control Device : Uncontrolled
Reference(s) : 1
Data Source : Distillates of four lacquer samples attained from surface coating facilities were combined in proportion to the emission facility and analyzed by GC and GC/MS.

SCC Assignments: 40200401, 40200410

Saroad	CAS Number	Name	Spec_MW	Spec_WT	Peak
43108		ISOMERS OF NONANE	128.25	4.43	
43232	142-82-5	HEPTANE	100.20	10.17	
43261	108-87-2	METHYLCYCLOHEXANE	98.21	15.25	
43277		2,4-DIMETHYLHEXANE	114.22	0.76	
43288	1678-91-7	ETHYLCYCLOHEXANE	112.23	0.79	
43435	138-22-7	N-BUTYL ACETATE	116.16	14.90	
45102	1330-20-7	ISOMERS OF XYLENE	106.16	1.04	
45202	108-88-3	TOLUENE	92.13	44.59	
45204	95-47-6	O-XYLENE	106.16	3.14	
98057	1640-89-7	ETHYLCYCLOPENTANE	98.19	1.68	
98058		TRIMETHYLCYCLOPENTANE	112.16	1.29	
98060	3073-66-3	TRIMETHYLCYCLOHEXANES	126.27	0.81	
98090		METHYLHEPTENE	112.22	1.14	
TOTAL				99.99	

```
VOC Profile Speciation Report
--------------------------------------------------------------------------------
Profile Name   : Surface Coating Operations - Coating Application - Enamel
Profile Number : 1018
Data Quality   : B
--------------------------------------------------------------------------------
Control Device : Uncontrolled
Reference(s)   : 1
Data Source    : Distillates of five enamel samples obtained from
                 coating facilities were combined in proportion to
                 facility emissions and analyzed by GC/MS.  Four
                 samples from coating manufacturers were also combined
                 and analyzed.  The two data sets were then averaged.

SCC Assignments: 40200501, 40200510

--------------------------------------------------------------------------------
Saroad       CAS Number       Name                            Spec_MW  Spec_WT  Peak
--------------------------------------------------------------------------------
43232          142-82-5       HEPTANE                          100.20     1.56
43248          110-82-7       CYCLOHEXANE                       84.16     2.27
43433          141-78-6       ETHYL ACETATE                     88.10     8.96
43435          138-22-7       N-BUTYL ACETATE                  116.16     9.41
43459                         C5 ESTER                         130.19     5.51
43551           67-64-1       ACETONE                           58.08     5.57
43552           78-93-3       METHYL ETHYL KETONE               72.10     2.36
43560          108-10-1       METHYL ISOBUTYL KETONE           100.16     1.57
43562          110-43-0       METHYL AMYL KETONE               114.21     3.62
43563         7379-12-6       2-METHYL-3-HEXANONE              114.19    16.44
45102         1330-20-7       ISOMERS OF XYLENE                106.16    11.56
45104                         ISOMERS OF ETHYLTOLUENE          120.19     0.88
45107        25551-13-7       TRIMETHYLBENZENE                 120.19     0.50
45202          108-88-3       TOLUENE                           92.13    15.90
45203          100-41-4       ETHYLBENZENE                     106.16     2.36
45204           95-47-6       O-XYLENE                         106.16    11.53
--------------------------------------------------------------------------------
TOTAL                                                                  100.00
================================================================================
```

VOC Profile Speciation Report

Profile Name : Surface Coating Operations - Coating Application - Primer
Profile Number : 1019
Data Quality : B

Control Device : Uncontrolled
Reference(s) : 1
Data Source : Distillates of three primer samples from surface coating facilities were combined (weighted according to emissions from each facility) and analyzed by GC/MS.

SCC Assignments: 40200601, 40200610

Saroad	CAS Number	Name	Spec_MW	Spec_WT	Peak
43108		ISOMERS OF NONANE	128.25	3.45	
43232	142-82-5	HEPTANE	100.20	1.94	
43247	108-08-7	2,4-DIMETHYLPENTANE	100.20	2.66	
43261	108-87-2	METHYLCYCLOHEXANE	98.21	2.50	
43277		2,4-DIMETHYLHEXANE	114.22	11.09	
43288	1678-91-7	ETHYLCYCLOHEXANE	112.23	2.08	
43308	111-76-2	BUTYL CELLOSOLVE	118.17	10.13	
43435	138-22-7	N-BUTYL ACETATE	116.16	8.42	
45102	1330-20-7	ISOMERS OF XYLENE	106.16	1.45	
45202	108-88-3	TOLUENE	92.13	44.31	
45204	95-47-6	O-XYLENE	106.16	2.23	
98059		DIMETHYLCYCLOHEXANE	112.24	6.26	
98060	3073-66-3	TRIMETHYLCYCLOHEXANES	126.27	2.43	
98091		DIMETHYLHEPTANES	128.26	1.04	
TOTAL				99.99	

VOC Profile Speciation Report

Profile Name : Surface Coating Operations - Coating Application - Adhesives
Profile Number : 1020
Data Quality : B

Control Device : Uncontrolled.
Reference(s) : 1
Data Source : Distillates of three adhesive samples from coating facilities and a coating manufacturer were combined (weighted according to emissions from each facility) and analyzed by GC and GC/MS.

SCC Assignments: 40200706

Saroad	CAS Number	Name	Spec_MW	Spec_WT	Peak
43122		ISOMERS OF PENTANE	72.15	56.04	
43231	110-54-3	HEXANE	86.17	0.90	
43262	96-37-7	METHYLCYCLOPENTANE	84.16	3.22	
43322	110-63-4	1,4 BUTANEDIOL	90.12	11.17	
43551	67-64-1	ACETONE	58.08	13.28	
43552	78-93-3	METHYL ETHYL KETONE	72.10	11.17	
43560	108-10-1	METHYL ISOBUTYL KETONE	100.16	0.80	
45202	108-88-3	TOLUENE	92.13	3.42	
TOTAL				100.00	

```
VOC Profile Speciation Report
-------------------------------------------------------------------------------
Profile Name   : Surface Coating Operations - Thinning Solvent - Hexylene Glycol
Profile Number : 1026
Data Quality   : E
-------------------------------------------------------------------------------
Control Device : Not reported
Reference(s)   : 1
Data Source    : Engineering judgement.

SCC Assignments: 40200927

-------------------------------------------------------------------------------
Saroad       CAS Number       Name                          Spec_MW  Spec_WT  Peak
-------------------------------------------------------------------------------
43371         107-41-5        HEXYLENE GLYCOL               118.18    100.00
-------------------------------------------------------------------------------
TOTAL                                                                100.00
===============================================================================
VOC Profile Speciation Report
----------------------------------------------------------------------------------
Profile Name   : Surface Coating Operations - Thinning Solvent - Ethylene Oxide
Profile Number : 1031
Data Quality   : E
----------------------------------------------------------------------------------
Control Device : Not reported
Reference(s)   : 1
Data Source    : Engineering judgement.

SCC Assignments: 40200928

----------------------------------------------------------------------------------
Saroad       CAS Number       Name                            Spec_MW  Spec_WT   Peak
----------------------------------------------------------------------------------
43601          75-21-8        ETHYLENE OXIDE                   44.05    100.00
----------------------------------------------------------------------------------
TOTAL                                                                   100.00
==================================================================================
VOC Profile Speciation Report
--------------------------------------------------------------------------------
Profile Name   : Surface Coating Operations - Adhesive Application
Profile Number : 1088
Data Quality   : C
--------------------------------------------------------------------------------
Control Device : Direct flame incinerator
Reference(s)   : 48
Data Source    : Volatile organics source test.  Exhaust gases from one
                 laminating machine were allowed to enter the control
                 device.  Three one-hour test runs were performed at the
                 inlet and outlet of the control device.  Outlet
                 concentrations are shown here.

SCC Assignments: 40200701, 40200710

--------------------------------------------------------------------------------
Saroad       CAS Number      Name                          Spec_MW   Spec_WT   Peak
--------------------------------------------------------------------------------
43232          142-82-5      HEPTANE                        100.20     36.50
43304           67-63-0      ISO-PROPYL ALCOHOL              60.09      6.10
43433          141-78-6      ETHYL ACETATE                   88.10     13.30
43551           67-64-1      ACETONE                         58.08     14.20
43552           78-93-3      METHYL ETHYL KETONE             72.10      5.30
43560          108-10-1      METHYL ISOBUTYL KETONE         100.16      4.30
45202          108-88-3      TOLUENE                         92.13     20.30
--------------------------------------------------------------------------------
TOTAL                                                                 100.00
================================================================================
```

VOC Profile Speciation Report

Profile Name : Citrus Coating
Profile Number : 1187
Data Quality : D

Control Device : Uncontrolled
Reference(s) : 59
Data Source : Composite profile developed from profiles 0293, 0294,
and 0295 from the 1980 VOC Data Manual.

SCC Assignments: 40299995, 40299996, 40299997, 40299998

Saroad	CAS Number	Name	Spec_MW	Spec_WT	Peak
43231	110-54-3	HEXANE	86.17	11.33	
43248	110-82-7	CYCLOHEXANE	84.16	14.37	
45102	1330-20-7	ISOMERS OF XYLENE	106.16	26.94	
45104		ISOMERS OF ETHYLTOLUENE	120.19	6.51	
45107	25551-13-7	TRIMETHYLBENZENE	120.19	9.67	
45108		ISOMERS OF PROPYLBENZENE	120.19	1.34	
45201	71-43-2	BENZENE	78.11	1.04	
45202	108-88-3	TOLUENE	92.13	20.12	
45203	100-41-4	ETHYLBENZENE	106.16	8.68	
TOTAL				100.00	

VOC Profile Speciation Report

Profile Name : Autobody Repair
Profile Number : 1194
Data Quality : B

Control Device : Uncontrolled
Reference(s) : 90
Data Source : Twelve automotive aftermarket paint and thinner samples of acrylic lacquer and alkyd enamel from three paint manufacturers combined using market statistics. Semivolatiles analyzed by GC/MS.

SCC Assignments:

Saroad	CAS Number	Name	Spec_MW	Spec_WT	Peak
43107		ISOMERS OF OCTANE	114.23	1.27	
43109		ISOMERS OF DECANE	142.28	0.94	
43110		ISOMERS OF UNDECANE	156.30	0.57	
43124		C9 OLEFINS	126.24	0.00	(3)
43124		C9 OLEFINS	126.24	0.94	
43125		C10 OLEFINS	140.27	0.02	(5)
43125		C10 OLEFINS	140.27	0.18	(4)
43125		C10 OLEFINS	140.27	0.00	(2)
43146		C11 OLEFINS	154.29	0.00	(7)
43146		C11 OLEFINS	154.29	0.00	(8)
43146		C11 OLEFINS	154.29	0.03	(10)
43148		ISOMERS OF C9H16	124.23	0.02	
43151		ISOMERS OF C11H20	152.28	0.00	(10)
43232	142-82-5	HEPTANE	100.20	4.35	
43235	111-84-2	NONANE	128.25	2.48	
43261	108-87-2	METHYLCYCLOHEXANE	98.21	3.93	
43273	110-83-8	CYCLOHEXENE	82.14	0.32	
43288	1678-91-7	ETHYLCYCLOHEXANE	112.23	1.57	
43294		C7 OLEFINS	98.18	0.05	
43331	10143-23-4	DIMETHYLPENTANOL	116.20	0.41	
43335		METHOXYETHOXYETHANOL	120.15	0.00	(1)
43337	112-34-5	BUTOXYETHOXYETHANOL	162.23	0.57	
43410	57-10-3	HEXADECANOIC ACID	256.48	0.01	
43469	124-17-4	BUTOXYETHOXYETHANOL ACETATE	220.26	3.23	
43472		BUTOXYBUTENE	128.21	1.75	
43473		ETHYLHEXANOATE	144.24	0.11	
43474		METHYLMETHYLPROPENOATE	100.13	0.32	
43476		DIMETHYLHEXANEDIOATE	174.20	0.08	
43477		DIMETHYLPENTANEDIOATE	160.17	0.81	
43567		TETRAMETHYLPENTANONE	142.24	1.30	(6)
43568		NONENONE	140.22	6.77	
45102	1330-20-7	ISOMERS OF XYLENE	106.16	14.55	
45102	1330-20-7	ISOMERS OF XYLENE	106.16	6.12	(1)
45105		ISOMERS OF BUTYLBENZENE	134.22	0.44	(12)
45105		ISOMERS OF BUTYLBENZENE	134.22	8.66	
45108		ISOMERS OF PROPYLBENZENE	120.19	0.00	(6)
45108		ISOMERS OF PROPYLBENZENE	120.19	4.36	
45201	71-43-2	BENZENE	78.11	1.51	
45202	108-88-3	TOLUENE	92.13	8.65	

VOC Profile Speciation Report - continued (profile 1194)

Saroad	CAS Number	Name	Spec_MW	Spec_WT	Peak
45221	25013-15-4	METHYL STYRENE	118.19	0.18	
45226	92-52-4	BIPHENYL	154.21	0.02	
45245		C5-ALKYLBENZENES	148.24	1.14	
45245		C5-ALKYLBENZENES	148.24	0.34	(11)
45247		C6-ALKYLBENZENE	162.27	0.02	
45404		DIMETHYLETHYLBENZOIC ACID	178.23	0.01	
45452	84-74-2	DIBUTYL PHTHALATE	278.35	0.01	
45470		DI-C8 ALKYL PHTHALATE	390.56	0.30	
45477	85-68-7	BUTYLBENZYLPHTHALATE	312.39	1.17	
45601	85-44-9	PHTHALIC ANHYDRIDE	148.12	0.11	
46204		DIHYDROXYNAPTHALENEDIONE	160.17	0.05	
46701	91-12-3	NAPTHALENE	128.17	1.46	
46702		METHYL NAPHTHALENES	142.20	0.15	
46702		METHYL NAPHTHALENES	142.20	0.13	
46747		METHYLINDANS	132.21	0.00	(12)
46747		METHYLINDANS	132.21	0.00	(11)
46750		DIMETHYLINDANS	146.23	0.05	
46753	91-17-8	DECALINS	138.25	0.00	(9)
90028		METHYLHEXANE	100.20	2.16	
90047		METHYLNONANE	142.28	0.26	
90048		METHYLDECANES	156.32	0.05	(9)
90048		METHYLDECANES	156.32	0.08	
90064		DIMETHYLCYCLOPENTANE	98.19	0.81	
90070		DIMETHYLOCTANES	142.28	0.11	
90076		DIMETHYLNONANES	156.31	0.18	
90076		DIMETHYLNONANES	156.31	0.08	(8)
90080		ETHYLMETHYLCYCLOPENTANE	112.21	0.13	
90081		ETHYLHEXANE	114.23	5.32	
90083		ETHYLMETHYLCYCLOHEXANES	126.24	1.00	
90104		METHYLOCTANES	128.26	1.20	
90105		PROPENYLCYCLOHEXANE	124.33	0.18	(3)
90115		TRIMETHYLHEXANES	128.26	0.41	(7)
90115		TRIMETHYLHEXANES	128.26	0.34	
90117	5989-27-5	LIMONENE	136.24	0.11	
90118		OCTAHYDROPENTALENE	225.20	0.00	(5)
90121		METHYLETHYLHEPTANE	142.22	0.00	(4)
90122		TETRAMETHYLHEXANE	142.28	0.08	(2)
90128		ISOPROPYLCYCLOHEXANE	126.25	0.32	
98057	1640-89-7	ETHYLCYCLOPENTANE	98.19	0.41	
98058		TRIMETHYLCYCLOPENTANE	112.16	1.17	
98059		DIMETHYLCYCLOHEXANE	112.24	3.47	
98060	3073-66-3	TRIMETHYLCYCLOHEXANES	126.27	0.70	
TOTAL				100.03	

3.20 STORAGE, TRANSPORTATION, AND MARKETING OF PETROLEUM PRODUCTS

The storage, transportation, and marketing of petroleum liquids involves many distinct operations, each of which represents a potential source of VOC evaporative loss. Petroleum liquids are transported or conveyed by tankers, barges, tank cars, tank trucks, and pipelines. Refined fuels are delivered by tank trucks to service stations, commercial accounts, and local bulk storage plants. Emission sources include working and breathing storage losses, and loading, transit, and refueling losses. Refueling losses include evaporative emissions that occur from vapor displacement during vehicle refueling operations.

```
VOC Profile Speciation Report
-------------------------------------------------------------------------------------
Profile Name   : Fixed Roof Tank - Commercial Jet Fuel (Jet A)
Profile Number : 0100
Data Quality   : C
-------------------------------------------------------------------------------------
Control Device : Uncontrolled
Reference(s)   : 65
Data Source    : Engineering evaluation of literature data.

SCC Assignments: 40301013

-------------------------------------------------------------------------------------
Saroad       CAS Number       Name                              Spec_MW   Spec_WT   Peak
-------------------------------------------------------------------------------------
43232          142-82-5       HEPTANE                            100.20      0.10
43233          111-65-9       OCTANE                             114.23      0.50
43235          111-84-2       NONANE                             128.25      4.70
43238          124-18-5       N-DECANE                           142.28     19.60
43241         1120-21-4       N-UNDECANE                         156.31     20.30
43255          112-40-3       N-DODECANE                         170.33     18.20
43258          629-50-5       N-TRIDECANE                        184.36     17.70
43259          629-59-4       N-TETRADECANE                      198.38     11.70
43260          629-62-9       N-PENTADECANE                      212.41      7.20
-------------------------------------------------------------------------------------
TOTAL                                                                       100.00
=====================================================================================
VOC Profile Speciation Report
--------------------------------------------------------------------------------
Profile Name   : Fixed Roof Tank - Crude Oil Production
Profile Number : 0296
Data Quality   : C
--------------------------------------------------------------------------------
Control Device : Uncontrolled
Reference(s)   : 59, 72
Data Source    : Engineering evaluation of test data and literature data

SCC Assignments: 40301010, 40301011, 40301012, 40301109

--------------------------------------------------------------------------------
Saroad      CAS Number      Name                           Spec_MW   Spec_WT   Peak
--------------------------------------------------------------------------------
43115                       C-7 CYCLOPARAFFINS               98.19      1.30
43116                       C-8 CYCLOPARAFFINS              112.23      0.50
43122                       ISOMERS OF PENTANE               72.15      1.50
43201          74-82-8      METHANE                          16.04      6.20
43202          74-84-0      ETHANE                           30.07      5.60
43204          74-98-6      PROPANE                          44.09     17.60
43212         106-97-8      N-BUTANE                         58.12     27.10
43214          75-28-5      ISO-BUTANE                       58.12      1.50
43220         109-66-0      N-PENTANE                        72.15     14.60
43231         110-54-3      HEXANE                           86.17      7.90
43232         142-82-5      HEPTANE                         100.20      9.20
43233         111-65-9      OCTANE                          114.23      6.90
45201          71-43-2      BENZENE                          78.11      0.10
--------------------------------------------------------------------------------
TOTAL                                                                100.00
================================================================================
```

VOC Profile Speciation Report

Profile Name : Fixed Roof Tank - Crude Oil Refinery
Profile Number : 0297
Data Quality : C

Control Device : Uncontrolled
Reference(s) : 59, 72
Data Source : Engineering evaluation of test data and literature data.

SCC Assignments: 40400301, 40400302

Saroad	CAS Number	Name	Spec_MW	Spec_WT	Peak
43105		ISOMERS OF HEXANE	86.17	5.10	
43106		ISOMERS OF HEPTANE	100.20	5.00	
43107		ISOMERS OF OCTANE	114.23	0.40	
43122		ISOMERS OF PENTANE	72.15	11.20	
43201	74-82-8	METHANE	16.04	8.80	
43202	74-84-0	ETHANE	30.07	2.70	
43204	74-98-6	PROPANE	44.09	16.10	
43212	106-97-8	N-BUTANE	58.12	20.80	
43214	75-28-5	ISO-BUTANE	58.12	9.30	
43220	109-66-0	N-PENTANE	72.15	10.10	
43231	110-54-3	HEXANE	86.17	4.70	
43232	142-82-5	HEPTANE	100.20	2.00	
45201	71-43-2	BENZENE	78.11	2.40	
45202	108-88-3	TOLUENE	92.13	1.40	
TOTAL				100.00	

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VOC Profile Speciation Report
--------------------------------------------------------------------------------
Profile Name   : Fixed Roof Tank - Crude Oil Marine Terminal
Profile Number : 0305
Data Quality   : C
--------------------------------------------------------------------------------
Control Device : Uncontrolled
Reference(s)   : 72
Data Source    : Engineering evaluation of literature data.

SCC Assignments: 40600253

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Saroad        CAS Number       Name                              Spec_MW   Spec_WT   Peak
--------------------------------------------------------------------------------
43201            74-82-8       METHANE                             16.04      2.60
43202            74-84-0       ETHANE                              30.07      3.70
43204            74-98-6       PROPANE                             44.09     15.80
43212           106-97-8       N-BUTANE                            58.12     30.20
43220           109-66-0       N-PENTANE                           72.15     18.50
43231           110-54-3       HEXANE                              86.17      8.80
43232           142-82-5       HEPTANE                            100.20     10.80
43233           111-65-9       OCTANE                             114.23      9.60
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TOTAL                                                                      100.00
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VOC Profile Speciation Report

Profile Name : Gasoline - Summer Blend
Profile Number : 1014
Data Quality : B

Control Device : Uncontrolled
Reference(s) : 1
Data Source : A composite of four product types combined in proportion to 1979 sales figures for California was used to develop vapor samples which were analyzed using a dual detector FID/PID GC.

SCC Assignments: 40301003, 40301006, 40301009, 40301103, 40301203, 40400103, 40400106, 40400109
40400112, 40400115, 40400120, 40400203, 40400206, 40400209, 40400213, 40400406

Saroad	CAS Number	Name	Spec_MW	Spec_WT	Peak
43105		ISOMERS OF HEXANE	86.17	4.78	
43106		ISOMERS OF HEPTANE	100.20	1.53	
43107		ISOMERS OF OCTANE	114.23	0.05	
43108		ISOMERS OF NONANE	128.25	0.02	
43120		ISOMERS OF BUTENE	56.10	1.11	
43122		ISOMERS OF PENTANE	72.15	26.79	
43124		C9 OLEFINS	126.24	0.03	
43125		C10 OLEFINS	140.27	0.00	
43202	74-84-0	ETHANE	30.07	0.08	
43204	74-98-6	PROPANE	44.09	1.25	
43212	106-97-8	N-BUTANE	58.12	22.95	
43214	75-28-5	ISO-BUTANE	58.12	9.83	
43216	624-64-6	T-2-BUTENE	56.11	1.21	
43217	590-18-1	CIS-2-BUTENE	56.11	0.98	
43220	109-66-0	N-PENTANE	72.15	8.56	
43223	563-45-1	3-METHYL-1-BUTENE	70.13	0.40	
43224	109-67-1	1-PENTENE	70.13	1.02	
43225	563-46-2	2-METHYL-1-BUTENE	70.13	1.93	
43226	646-04-8	TRANS-2-PENTENE	70.13	1.61	
43227	627-20-3	CIS-2-PENTENE	70.13	0.79	
43228	513-35-9	2-METHYL-2-BUTENE	70.13	1.04	
43230	96-14-0	3-METHYL PENTANE	86.17	2.34	
43231	110-54-3	HEXANE	86.17	1.84	
43232	142-82-5	HEPTANE	100.20	0.32	
43233	111-65-9	OCTANE	114.23	0.02	
43242	287-92-3	CYCLOPENTANE	70.14	0.72	
43245	592-41-6	1-HEXENE	84.16	0.27	
43247	108-08-7	2,4-DIMETHYLPENTANE	100.20	0.51	
43248	110-82-7	CYCLOHEXANE	84.16	0.26	
43250	540-84-1	2,2,4-TRIMETHYLPENTANE	114.22	0.49	
43252	565-75-3	2,3,4-TRIMETHYLPENTANE	114.22	0.08	
43261	108-87-2	METHYLCYCLOHEXANE	98.21	0.13	
43262	96-37-7	METHYLCYCLOPENTANE	84.16	1.66	
43270	922-61-2	3-METHYL-T-2-PENTENE	84.16	0.09	
43271		3,5,5-TRIMETHYLHEXANE	128.26	0.10	
43278	592-13-2	2,5-DIMETHYLHEXANE	114.22	0.11	
43289		C6 OLEFINS	84.16	0.06	

VOC Profile Speciation Report - continued (profile 1014)

Saroad	CAS Number	Name	Spec_MW	Spec_WT	Peak
43291	75-83-2	2,2-DIMETHYLBUTANE	86.17	1.23	
43292	142-29-0	CYCLOPENTENE	68.11	0.25	
43293	27236-46-0	4-METHYL-T-2-PENTENE	84.18	0.25	
43294		C7 OLEFINS	98.18	0.06	
43295	589-34-4	3-METHYLHEXANE	100.20	0.49	
43298		3-METHYLHEPTANE	114.23	0.07	
43299		1-METHYLCYCLOHEXENE	96.17	0.05	
45102	1330-20-7	ISOMERS OF XYLENE	106.16	0.15	
45110		C10 AROMATIC	134.22	0.01	
45201	71-43-2	BENZENE	78.11	0.77	
45202	108-88-3	TOLUENE	92.13	0.66	
45203	100-41-4	ETHYLBENZENE	106.16	0.04	
45204	95-47-6	O-XYLENE	106.16	0.05	
45207	108-67-8	1,3,5-TRIMETHYLBENZENE	120.19	0.02	
45208	95-63-6	1,2,4-TRIMETHYLBENZENE	120.19	0.06	
45211	611-14-3	O-ETHYLTOLUENE	120.19	0.05	
45215	98-06-6	TERT-BUTYLBENZENE	134.21	0.00	
45218	141-93-5	M-DIETHYLBENZENE	134.22	0.00	
45225	526-73-8	1,2,3-TRIMETHYLBENZENE	120.19	0.05	
46712	95-13-6	INDENE	116.16	0.01	
98033		2,2,5-TRIMETHYLHEXANE	128.26	0.02	
98034	40504-55-7	T-2-HEXENE	84.16	0.30	
98035	592-43-8	C-2-HEXENE	84.16	0.42	
98054	107-39-1	2,4,4-TRIMETHYL-1-PENTENE	112.22	0.02	
TOTAL				99.99	

VOC Profile Speciation Report

Profile Name   : Gasoline - Winter Blend
Profile Number : 1015
Data Quality   : B

Control Device : Uncontrolled
Reference(s)   : 1
Data Source   : Four product types combined in proportion to 1979 sales figures for California was used to develop vapor samples that were analyzed using a dual detector FID/PID GC.

SCC Assignments: 40301001, 40301004, 40301007, 40301101, 40301104, 40301201, 40400101, 40400104
40400107, 40400110, 40400113, 40400118, 40400201, 40400204, 40400207, 40400211
40400402

Saroad	CAS Number	Name	Spec_MW	Spec_WT	Peak
43105		ISOMERS OF HEXANE	86.17	4.03	
43106		ISOMERS OF HEPTANE	100.20	3.41	
43107		ISOMERS OF OCTANE	114.23	1.44	
43108		ISOMERS OF NONANE	128.25	0.41	
43109		ISOMERS OF DECANE	142.28	0.06	
43120		ISOMERS OF BUTENE	56.10	1.28	
43122		ISOMERS OF PENTANE	72.15	16.09	
43124		C9 OLEFINS	126.24	0.27	
43138		C-8 OLEFINS	112.23	0.21	
43202	74-84-0	ETHANE	30.07	0.04	
43204	74-98-6	PROPANE	44.09	1.10	
43212	106-97-8	N-BUTANE	58.12	24.97	
43214	75-28-5	ISO-BUTANE	58.12	13.94	
43216	624-64-6	T-2-BUTENE	56.11	1.13	
43217	590-18-1	CIS-2-BUTENE	56.11	0.84	
43220	109-66-0	N-PENTANE	72.15	5.44	
43223	563-45-1	3-METHYL-1-BUTENE	70.13	0.25	
43224	109-67-1	1-PENTENE	70.13	0.71	
43225	563-46-2	2-METHYL-1-BUTENE	70.13	0.82	
43226	646-04-8	TRANS-2-PENTENE	70.13	1.09	
43227	627-20-3	CIS-2-PENTENE	70.13	0.56	
43230	96-14-0	3-METHYL PENTANE	86.17	2.25	
43231	110-54-3	HEXANE	86.17	1.86	
43232	142-82-5	HEPTANE	100.20	0.85	
43233	111-65-9	OCTANE	114.23	0.24	
43235	111-84-2	NONANE	128.25	0.03	
43238	124-18-5	N-DECANE	142.28	0.01	
43242	287-92-3	CYCLOPENTANE	70.14	0.70	
43245	592-41-6	1-HEXENE	84.16	0.41	
43247	108-08-7	2,4-DIMETHYLPENTANE	100.20	0.70	
43248	110-82-7	CYCLOHEXANE	84.16	0.54	
43252	565-75-3	2,3,4-TRIMETHYLPENTANE	114.22	0.11	
43261	108-87-2	METHYLCYCLOHEXANE	98.21	0.54	
43262	96-37-7	METHYLCYCLOPENTANE	84.16	2.54	
43265	111-66-0	OCTENE	112.21	0.06	
43271		3,5,5-TRIMETHYLHEXANE	128.26	0.45	
43278	592-13-2	2,5-DIMETHYLHEXANE	114.22	0.35	

VOC Profile Speciation Report - continued (profile 1015)

Saroad	CAS Number	Name	Spec_MW	Spec_WT	Peak
43284	625-27-4	2-METHYL-2-PENTENE	84.16	0.11	
43289		C6 OLEFINS	84.16	0.65	
43291	75-83-2	2,2-DIMETHYLBUTANE	86.17	0.97	
43292	142-29-0	CYCLOPENTENE	68.11	0.24	
43293	27236-46-0	4-METHYL-T-2-PENTENE	84.18	0.20	
43294		C7 OLEFINS	98.18	0.09	
43295	589-34-4	3-METHYLHEXANE	100.20	1.07	
43298		3-METHYLHEPTANE	114.23	0.44	
43299		1-METHYLCYCLOHEXENE	96.17	0.18	
43820	79-00-5	1,1,2-TRICHLOROETHANE	133.42	0.02	
45102	1330-20-7	ISOMERS OF XYLENE	106.16	0.76	
45109		C3/C4/C5 ALKYLBENZENES	134.21	0.02	
45201	71-43-2	BENZENE	78.11	1.58	
45202	108-88-3	TOLUENE	92.13	2.11	
45203	100-41-4	ETHYLBENZENE	106.16	0.22	
45204	95-47-6	O-XYLENE	106.16	0.31	
45207	108-67-8	1,3,5-TRIMETHYLBENZENE	120.19	0.03	
45208	95-63-6	1,2,4-TRIMETHYLBENZENE	120.19	0.09	
45209	103-65-1	N-PROPYLBENZENE	120.19	0.02	
45210	98-82-8	CUMENE (ISOPROPYL BENZENE)	120.20	0.01	
45211	611-14-3	O-ETHYLTOLUENE	120.19	0.03	
45212	620-14-4	M-ETHYLTOLUENE	120.19	0.09	
45215	98-06-6	TERT-BUTYLBENZENE	134.21	0.01	
45218	141-93-5	M-DIETHYLBENZENE	134.22	0.00	
45225	526-73-8	1,2,3-TRIMETHYLBENZENE	120.19	0.04	
45801	108-90-7	CHLOROBENZENE	112.56	0.02	
46701	91-12-3	NAPTHALENE	128.17	0.01	
90013		C-2-OCTENE	112.21	0.03	
98033		2,2,5-TRIMETHYLHEXANE	128.26	0.17	
98034	40504-55-7	T-2-HEXENE	84.16	0.44	
98035	592-43-8	C-2-HEXENE	84.16	0.15	
98040	763-29-1	2-METHYL-1-PENTENE	84.16	0.05	
98041		3-HEPTENE	98.19	0.03	
98044	496-11-7	INDANE	118.18	0.01	
98054	107-39-1	2,4,4-TRIMETHYL-1-PENTENE	112.22	0.05	
98056	590-86-3	ISOVALERALDEHYDE	86.14	0.01	
TOTAL				99.99	

VOC Profile Speciation Report

Profile Name : Refueling
Profile Number : 1100
Data Quality : C

Control Device : Uncontrolled
Reference(s) : 54
Data Source : Composite profile developed using data from refueling four cars fueled with unleaded/winter blend gasoline. Data obtained by GC/FID are weighted according to hydrocarbon emissions.

SCC Assignments: 40600401, 40600403

Saroad	CAS Number	Name	Spec_MW	Spec_WT	Peak
43136		C9 PARAFFIN	128.25	0.00	(17)
43211	760-20-3	3-METHYL-1-PENTENE	84.16	0.00	(5)
43212	106-97-8	N-BUTANE	58.12	32.63	
43213	106-98-9	BUTENE	56.10	2.69	(1)
43214	75-28-5	ISO-BUTANE	58.12	14.45	
43215	115-11-7	ISOBUTYLENE	56.10	0.00	(1)
43216	624-64-6	T-2-BUTENE	56.11	3.19	(2)
43217	590-18-1	CIS-2-BUTENE	56.11	2.07	(3)
43220	109-66-0	N-PENTANE	72.15	6.66	
43221	78-78-4	ISO PENTANE	72.15	15.83	
43222	463-82-1	2,2 DIMETHYLPROPANE	72.17	0.00	(2)
43223	563-45-1	3-METHYL-1-BUTENE	70.13	0.37	
43224	109-67-1	1-PENTENE	70.13	0.64	(4)
43226	646-04-8	TRANS-2-PENTENE	70.13	1.36	
43227	627-20-3	CIS-2-PENTENE	70.13	0.68	
43228	513-35-9	2-METHYL-2-BUTENE	70.13	1.61	
43229	107-83-5	2-METHYLPENTANE	86.17	2.26	(6)
43230	96-14-0	3-METHYL PENTANE	86.17	1.16	
43231	110-54-3	HEXANE	86.17	0.90	(8)
43232	142-82-5	HEPTANE	100.20	0.35	
43234	563-78-0	2,3 DIMETHYL-1-BUTENE	84.16	0.00	(6)
43235	111-84-2	NONANE	128.25	0.04	
43238	124-18-5	N-DECANE	142.28	0.03	
43242	287-92-3	CYCLOPENTANE	70.14	0.47	(5)
43243	78-79-5	ISOPRENE	68.12	0.02	
43245	592-41-6	1-HEXENE	84.16	0.23	(7)
43247	108-08-7	2,4-DIMETHYLPENTANE	100.20	0.28	
43250	540-84-1	2,2,4-TRIMETHYLPENTANE	114.22	0.37	
43252	565-75-3	2,3,4-TRIMETHYLPENTANE	114.22	0.06	
43261	108-87-2	METHYLCYCLOHEXANE	98.21	0.14	
43262	96-37-7	METHYLCYCLOPENTANE	84.16	0.85	(9)
43263	591-76-4	2-METHYL HEXANE	100.20	0.00	(10)
43270	922-61-2	3-METHYL-T-2-PENTENE	84.16	0.00	(9)
43272	693-89-0	METHYLCYCLOPENTENE	82.14	0.17	
43273	110-83-8	CYCLOHEXENE	82.14	0.53	(10)
43274	565-59-3	2,3 DIMETHYL PENTANE	100.20	0.00	(10)
43276	79-29-8	2,3 DIMETHYLBUTANE	86.17	0.62	
43277		2,4-DIMETHYLHEXANE	114.22	0.12	(11)
43278	592-13-2	2,5-DIMETHYLHEXANE	114.22	0.00	(11)

VOC Profile Speciation Report - continued (profile 1100)

Saroad	CAS Number	Name	Spec_MW	Spec_WT	Peak
43279	760-21-4	2-ETHYL-1-BUTENE	84.16	0.00	(7)
43280		2,3,3 TRIMETHYLPENTANE	114.22	0.10	
43281	107-00-6	1-BUTYNE	54.09	0.00	(3)
43282	503-17-3	2-BUTYNE	54.09	0.00	(4)
43283		C-3-HEXENE	84.16	0.00	(8)
43284	625-27-4	2-METHYL-2-PENTENE	84.16	0.36	
43285		2-HEXENE	84.16	0.13	
43286		DIMETHYLHEXENE	112.20	0.02	
43289		C6 OLEFINS	84.16	0.18	
43290		2,3 DIMETHYLHEXANE	114.22	0.00	(12)
43291	75-83-2	2,2-DIMETHYLBUTANE	86.17	0.42	
43292	142-29-0	CYCLOPENTENE	68.11	0.19	
43295	589-34-4	3-METHYLHEXANE	100.20	0.38	
43296	592-27-8	2-METHYLHEPTANE	114.23	0.03	(13)
43297	589-53-7	4-METHYLHEPTANE	114.23	0.06	
43298		3-METHYLHEPTANE	114.23	0.04	
43299		1-METHYLCYCLOHEXENE	96.17	0.00	(13)
45110		C10 AROMATIC	134.22	0.11	
45201	71-43-2	BENZENE	78.11	1.00	
45202	108-88-3	TOLUENE	92.13	1.03	(12)
45203	100-41-4	ETHYLBENZENE	106.16	0.28	(15)
45204	95-47-6	O-XYLENE	106.16	0.15	(17)
45205	108-38-3	M-XYLENE	106.16	0.00	(16)
45206	106-42-3	P-XYLENE	106.16	0.29	(16)
45207	108-67-8	1,3,5-TRIMETHYLBENZENE	120.19	0.21	
45208	95-63-6	1,2,4-TRIMETHYLBENZENE	120.19	0.15	
45209	103-65-1	N-PROPYLBENZENE	120.19	0.02	
45217	135-01-3	1,2 DIETHYLBENZENE	134.22	0.01	
45225	526-73-8	1,2,3-TRIMETHYLBENZENE	120.19	0.06	
90002		2,3,5-TRIMETHYLHEXANE	128.25	0.01	
90004		3,5 DIMETHYLHEPTANE	128.26	0.04	(14)
90005		2,5 DIMETHYLHEPTANE	128.26	0.00	(14)
90006		2,3 DIMETHYLHEPTANE	128.26	0.00	(15)
98033		2,2,5-TRIMETHYLHEXANE	128.26	0.16	
98044	496-11-7	INDANE	118.18	0.01	
99911		3,4 DIMETHYLOCTANE	142.29	0.08	
99912		1-METHYL-3-ETHYLBENZENE	120.19	0.11	
99916		1-METHYL-3N-PROPYLBENZENE	134.22	0.02	
99917		1-METHYL-3-ISOPROPYLBENZENE	134.22	0.08	
99918		2-METHYLDECANE	156.32	0.05	
99999		UNIDENTIFIED	86.00	3.44	
TOTAL				100.00	

VOC Profile Speciation Report

Profile Name : Gasoline Marketed
Profile Number : 1190
Data Quality : B

Control Device : Uncontrolled
Reference(s) : 90
Data Source : Fourteen samples of leaded, unleaded and unleaded premium grades from five oil companies composite based on 1984 national sales data. Headspace analyzed by GC/MS. Profile represents summer blend gasoline from one bulk terminal distribution region.

SCC Assignments:

Saroad	CAS Number	Name	Spec_MW	Spec_WT	Peak
43105		ISOMERS OF HEXANE	86.17	0.10	
43109		ISOMERS OF DECANE	142.28	0.10	
43110		ISOMERS OF UNDECANE	156.30	0.00	(12)
43110		ISOMERS OF UNDECANE	156.30	0.09	
43111		ISOMERS OF DODECANE	170.32	0.05	
43111		ISOMERS OF DODECANE	170.32	0.00	(15)
43113		ISOMERS OF TETRADECANE	198.38	0.02	
43115		C-7 CYCLOPARAFFINS	98.19	0.05	
43124		C9 OLEFINS	126.24	0.01	(7)
43124		C9 OLEFINS	126.24	0.00	(10)
43124		C9 OLEFINS	126.24	0.08	
43124		C9 OLEFINS	126.24	0.01	(6)
43125		C10 OLEFINS	140.27	0.00	(11)
43125		C10 OLEFINS	140.27	0.04	
43135		C10 PARAFFINS	142.28	0.00	(8)
43135		C10 PARAFFINS	142.28	0.00	(18)
43135		C10 PARAFFINS	142.28	0.00	(4)
43136		C9 PARAFFIN	128.25	0.48	
43138		C-8 OLEFINS	112.23	0.21	
43138		C-8 OLEFINS	112.23	0.00	(2)
43141		C8 PARAFFIN	114.23	3.84	
43142		C7 PARAFFINS	100.20	0.04	
43143		C5 OLEFIN	70.13	1.91	
43144		C5 PARAFFIN	72.15	2.09	
43145		C5 PARAFFIN/OLEFIN	70.13	1.08	
43146		C11 OLEFINS	154.29	0.00	(13)
43146		C11 OLEFINS	154.29	0.04	(12)
43146		C11 OLEFINS	154.29	0.01	
43148		ISOMERS OF C9H16	124.23	0.00	(7)
43148		ISOMERS OF C9H16	124.23	0.02	
43148		ISOMERS OF C9H16	124.23	0.00	(5)
43149		C8H14	110.20	0.00	(6)
43213	106-98-9	BUTENE	56.10	0.14	
43214	75-28-5	ISO-BUTANE	58.12	2.65	
43215	115-11-7	ISOBUTYLENE	56.10	0.14	
43231	110-54-3	HEXANE	86.17	3.91	
43232	142-82-5	HEPTANE	100.20	1.84	
43242	287-92-3	CYCLOPENTANE	70.14	0.16	

VOC Profile Speciation Report - continued (profile 1190)

Saroad	CAS Number	Name	Spec_MW	Spec_WT	Peak
43261	108-87-2	METHYLCYCLOHEXANE	98.21	0.21	
43262	96-37-7	METHYLCYCLOPENTANE	84.16	0.68	
43264		HEPTENE	98.18	0.03	
43272	693-89-0	METHYLCYCLOPENTENE	82.14	0.45	
43273	110-83-8	CYCLOHEXENE	82.14	0.04	
43288	1678-91-7	ETHYLCYCLOHEXANE	112.23	0.08	
43292	142-29-0	CYCLOPENTENE	68.11	0.18	
43395		C7H12O	112.17	0.04	
43565		DIMETHYLCYCLOBUTANONE	98.14	0.05	
45105		ISOMERS OF BUTYLBENZENE	134.22	3.18	
45105		ISOMERS OF BUTYLBENZENE	134.22	0.03	(13)
45106		ISOMERS OF DIETHYLBENZENE	134.21	0.02	
45107	25551-13-7	TRIMETHYLBENZENE	120.19	4.29	
45108		ISOMERS OF PROPYLBENZENE	120.19	0.76	
45111		C10H12	132.22	0.04	
45112		ISOMERS OF C10H10	130.19	0.00	(9)
45112		ISOMERS OF C10H10	130.19	0.00	(17)
45201	71-43-2	BENZENE	78.11	3.25	
45202	108-88-3	TOLUENE	92.13	15.22	
45203	100-41-4	ETHYLBENZENE	106.16	4.07	
45204	95-47-6	O-XYLENE	106.16	6.41	
45209	103-65-1	N-PROPYLBENZENE	120.19	0.92	
45210	98-82-8	CUMENE (ISOPROPYL BENZENE)	120.20	0.33	
45220	100-42-5	STYRENE	104.14	0.17	
45221	25013-15-4	METHYL STYRENE	118.19	0.05	
45238		ETHYLTOLUENE	120.19	3.61	
45243		ETHYLDIMETHYLBENZENE	134.22	1.24	
45244		TETRAMETHYLBENZENE	134.22	1.03	
45245		C5-ALKYLBENZENES	148.24	0.35	(16)
45245		C5-ALKYLBENZENES	148.24	0.04	(18)
45245		C5-ALKYLBENZENES	148.24	0.83	
45245		C5-ALKYLBENZENES	148.24	0.09	(20)
45245		C5-ALKYLBENZENES	148.24	0.02	(14)
45245		C5-ALKYLBENZENES	148.24	0.05	(17)
45245		C5-ALKYLBENZENES	148.24	0.05	(24)
45246		C5-ALKYLBENZENES (UNSAT.)	146.25	0.05	
45247		C6-ALKYLBENZENE	162.27	0.00	(22)
45247		C6-ALKYLBENZENE	162.27	0.00	(24)
45247		C6-ALKYLBENZENE	162.27	0.02	(21)
45247		C6-ALKYLBENZENE	162.27	0.06	
45247		C6-ALKYLBENZENE	162.27	0.00	(26)
45247		C6-ALKYLBENZENE	162.27	0.03	(23)
45248		C4-ALKYLSTYRENES	160.26	0.04	
45248		C4-ALKYLSTYRENES	160.26	0.00	(23)
45248		C4-ALKYLSTYRENES	160.26	0.01	(26)
45248		C4-ALKYLSTYRENES	160.26	0.02	(25)
45249		C7-ALKYLBENZENE	176.30	0.00	(25)
45501	100-52-7	BENZALDEHYDE	106.13	0.00	(21)
45801	108-90-7	CHLOROBENZENE	112.56	0.03	
46115		DIMETHYLNAPHTHYRIDINE	158.20	0.01	
46701	91-12-3	NAPTHALENE	128.17	0.80	
46702		METHYL NAPHTHALENES	142.20	0.64	

VOC Profile Speciation Report - continued (profile 1190)

Saroad	CAS Number	Name	Spec_MW	Spec_WT	Peak
46746		C2-ALKYLNAPHTHALENE	156.23	0.10	
46747		METHYLINDANS	132.21	0.52	
46747		METHYLINDANS	132.21	0.01	(15)
46747		METHYLINDANS	132.21	0.00	(16)
46749		METHYLDIHYDRONAPHTHALENE	144.22	0.01	(22)
46750		DIMETHYLINDANS	146.23	0.42	
46750		DIMETHYLINDANS	146.23	0.00	(20)
46750		DIMETHYLINDANS	146.23	0.00	(19)
46751		DIHYDRONAPTHALENE	130.19	0.06	
46752		DIMETHYLINDENE	144.22	0.01	
46754		ETHYLINDAN	146.23	0.04	
46755		TRIMETHYLINDAN	160.26	0.06	
90010		M-XYLENE AND P-XYLENE	106.16	15.28	
90023		METHYLBUTENE	70.13	0.06	
90024		METHYLBUTADIENE	68.12	0.01	
90025		METHYLPENTENES	84.16	0.41	
90025		METHYLPENTENES	84.16	0.48	(1)
90026		METHYLPENTANE	86.17	1.76	
90027		METHYLCYCLOPENTADIENE	80.14	0.04	
90028		METHYLHEXANE	100.20	1.68	
90029		METHYLHEXENES	98.18	0.00	(3)
90029		METHYLHEXENES	98.18	0.03	
90039		METHYLHEXADIENE	96.17	0.25	
90041	4313-57-9	METHYLCYCLOHEXADIENE	94.15	0.02	
90043		METHYLHEXANAL	114.19	0.92	
90044		METHYLHEPTYNE	110.20	0.02	
90045		METHYLHEPTANE	114.23	0.35	
90046		METHYLCYCLOHEXENE	96.17	0.14	
90047		METHYLNONANE	142.28	0.21	
90048		METHYLDECANES	156.32	0.12	
90054		PENTENYNE	66.10	0.03	
90056		HEXENE	84.16	0.40	
90058	142-83-6	HEXADIENAL	96.14	0.03	
90059	5910-85-9	HEPTADIENAL	110.17	0.02	
90060	79-29-8	DIMETHYLBUTANE	86.18	2.29	
90061		DIMETHYLBUTENE	84.16	0.30	
90062		DIMETHYLPENTANE	100.20	0.36	
90063		DIMETHYLPENTENE	98.19	0.02	
90064		DIMETHYLCYCLOPENTANE	98.19	0.15	
90065		DIMETHYLCYCLOPENTENES	96.17	0.22	
90065		DIMETHYLCYCLOPENTENES	96.17	0.09	(3)
90067		DIMETHYLHEXANES	114.23	0.48	(2)
90067		DIMETHYLHEXANES	114.23	0.28	
90068		DIMETHYLHEXADIENE	110.20	0.10	
90069		DIMETHYLETHYLCYCLOHEXANE	140.26	0.09	(8)
90070		DIMETHYLOCTANES	142.28	0.04	
90070		DIMETHYLOCTANES	142.28	0.02	(11)
90071		DIMETHYLUNDECANE	184.36	0.00	(14)
90074		DIMETHYLDECANE	170.34	0.07	(19)
90078		ETHYLPENTENE	98.19	0.03	
90079		ETHYLCYCLOPENTENE	96.17	0.06	
90080		ETHYLMETHYLCYCLOPENTANE	112.21	0.12	

VOC Profile Speciation Report - continued (profile 1190)

Saroad	CAS Number	Name	Spec_MW	Spec_WT	Peak
90081		ETHYLHEXANE	114.23	0.24	
90082		ETHYLMETHYLHEXANE	128.26	0.21	(4)
90083		ETHYLMETHYLCYCLOHEXANES	126.24	0.04	
90083		ETHYLMETHYLCYCLOHEXANES	126.24	0.02	(5)
90084		ETHYLHEPTANE	128.26	0.02	
90085		ETHYLMETHYLOCTANE	156.31	0.02	
90086		ETHYLBICYCLOHEPTANE	223.42	0.01	(10)
90087		ETHYLDIMETHYLPENTANE	128.26	0.13	
90091		TETRAMETHYLCYCLOBUTENE	110.19	0.04	
90092		TRIMETHYLPENTANE	114.22	0.68	
90093		TRIMETHYLPENTADIENE	110.20	0.05	
90094		TRIMETHYLHEPTANES	142.29	0.09	
90094		TRIMETHYLHEPTANES	142.29	0.05	(9)
90095		TRIMETHYLHEXENE	126.24	0.04	
90096		TRIMETHYLOCTANES	156.31	0.07	
90097		TRIMETHYLDECANE	184.36	0.03	
90099		OCTATRIENE	108.19	0.01	
90100		NONENE	126.24	0.03	
90103		PENTADIENE	68.13	0.04	
90104		METHYLOCTANES	128.26	0.55	
98044	496-11-7	INDANE	118.18	0.44	
98058		TRIMETHYLCYCLOPENTANE	112.16	0.09	
98059		DIMETHYLCYCLOHEXANE	112.24	0.10	
98060	3073-66-3	TRIMETHYLCYCLOHEXANES	126.27	0.02	
98091		DIMETHYLHEPTANES	128.26	0.16	
99999		UNIDENTIFIED	86.00	0.00	(1)
TOTAL				100.02	

3.21 PRINTING/PUBLISHING PROCESSES

Printing may be performed on coated and uncoated paper as well as other surfaces such as metals and fabric. Printing always involves the application of ink by a printing press. Typical printing processes include application of a relatively high solvent content material to the surface of a moving web or film, rapid solvent evaporation by movement of heated air across the wet surface, and solvent-laden air exhausted from the system.

```
VOC Profile Speciation Report
--------------------------------------------------------------------------------
Profile Name   : Printing Press - Letterpress Inking Process
Profile Number : 0166
Data Quality   : D
--------------------------------------------------------------------------------
Control Device : Catalytic afterburner
Reference(s)   : 59
Data Source    : Information based on composite survey data and GC/MS
                 analysis of sampling train catch.

SCC Assignments: 40500201, 40500211

--------------------------------------------------------------------------------
Saroad      CAS Number      Name                          Spec_MW  Spec_WT  Peak
--------------------------------------------------------------------------------
43201          74-82-8      METHANE                         16.04    63.00
43202          74-84-0      ETHANE                          30.07    24.00
43204          74-98-6      PROPANE                         44.09    12.00
43212         106-97-8      N-BUTANE                        58.12     1.00
--------------------------------------------------------------------------------
TOTAL                                                               100.00
================================================================================
```

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VOC Profile Speciation Report

Profile Name : Printing Press - Gravure General Solvent
Profile Number : 0182
Data Quality : C

Control Device : Uncontrolled
Reference(s) : 59
Data Source : Information based on composite survey data and engineering evaluation of literature data.

SCC Assignments: 40500501, 40500511, 40500512

Saroad	CAS Number	Name	Spec_MW	Spec_WT	Peak
43118	64475-85-0	MINERAL SPIRITS	114.00	51.00	
43248	110-82-7	CYCLOHEXANE	84.16	10.00	
43301	67-56-1	METHYL ALCOHOL	32.04	6.00	
43304	67-63-0	ISO-PROPYL ALCOHOL	60.09	6.00	
43305	71-36-3	N-BUTYL ALCOHOL	74.12	6.00	
43435	138-22-7	N-BUTYL ACETATE	116.16	8.00	
45106		ISOMERS OF DIETHYLBENZENE	134.21	7.00	
45203	100-41-4	ETHYLBENZENE	106.16	6.00	
TOTAL				100.00	

VOC Profile Speciation Report

Profile Name : Printing Press - Gravure Printing Solvent
Profile Number : 0183
Data Quality : D

Control Device : Uncontrolled
Reference(s) : 60
Data Source : Information based on calculations from composite survey data.

SCC Assignments: 40500513

Saroad	CAS Number	Name	Spec_MW	Spec_WT	Peak
43118	64475-85-0	MINERAL SPIRITS	114.00	83.00	
45102	1330-20-7	ISOMERS OF XYLENE	106.16	4.00	
45202	108-88-3	TOLUENE	92.13	13.00	
TOTAL				100.00	

```
VOC Profile Speciation Report
-----------------------------------------------------------------------------
Profile Name   : Printing Press - Lithography Inking and Drying
Profile Number : 0332
Data Quality   : D
-----------------------------------------------------------------------------
Control Device : Thermal afterburner
Reference(s)   : 59
Data Source    : Information based on composite survey data and GC/MS
                 analysis of sampling train catch.

SCC Assignments: 40500401, 40500411

-----------------------------------------------------------------------------
Saroad      CAS Number      Name                          Spec_MW  Spec_WT  Peak
-----------------------------------------------------------------------------
43201          74-82-8      METHANE                         16.04    17.10
43203          74-85-1      ETHYLENE                        28.05     2.00
43205         115-07-1      PROPENE                         42.08    33.60
43213         106-98-9      BUTENE                          56.10    13.60
43224         109-67-1      1-PENTENE                       70.13    11.90
43502          50-00-0      FORMALDEHYDE                    30.03    21.80
-----------------------------------------------------------------------------
TOTAL                                                               100.00
=============================================================================
```

VOC Profile Speciation Report

Profile Name : Lithography - Inking and Drying-Direct Fired Dryer
Profile Number : 0333
Data Quality : D

Control Device : Uncontrolled
Reference(s) : 59
Data Source : Information based on composite survey data and GC/MS
analysis of sampling train catch.

SCC Assignments:

Saroad	CAS Number	Name	Spec_MW	Spec_WT	Peak
43201	74-82-8	METHANE	16.04	37.66	
43202	74-84-0	ETHANE	30.07	9.99	
43204	74-98-6	PROPANE	44.09	3.30	
43212	106-97-8	N-BUTANE	58.12	11.49	
43214	75-28-5	ISO-BUTANE	58.12	1.80	
43304	67-63-0	ISO-PROPYL ALCOHOL	60.09	0.90	
43802	75-09-2	DICHLOROMETHANE	84.94	34.87	
TOTAL				100.01	

```
VOC Profile Speciation Report
-------------------------------------------------------------------------------
Profile Name   : Printing/Publishing - Ink Thinning Solvents - Methyl Isobutyl Ketone
Profile Number : 1022
Data Quality   : E
-------------------------------------------------------------------------------
Control Device : Uncontrolled
Reference(s)   : 1
Data Source    : Engineering judgement.

SCC Assignments: 40500507

-------------------------------------------------------------------------------
Saroad      CAS Number      Name                           Spec_MW   Spec_WT   Peak
-------------------------------------------------------------------------------
43560        108-10-1       METHYL ISOBUTYL KETONE          100.16    100.00
-------------------------------------------------------------------------------
TOTAL                                                                100.00
===============================================================================
```

VOC Profile Speciation Report

Profile Name : Printing/Flexographic
Profile Number : 1086
Data Quality : C

Control Device : Not reported
Reference(s) : 19,32
Data Source : Composite profile developed using data from volatile organic source tests at two facilities.

SCC Assignments: 40500301, 40500311, 40500312

Saroad	CAS Number	Name	Spec_MW	Spec_WT	Peak
43551	67-64-1	ACETONE	58.08	24.47	
43552	78-93-3	METHYL ETHYL KETONE	72.10	54.27	
43560	108-10-1	METHYL ISOBUTYL KETONE	100.16	14.78	
45202	108-88-3	TOLUENE	92.13	6.48	
TOTAL				100.00	

VOC Profile Speciation Report

Profile Name : Graphic Arts - (Printing)
Profile Number : 1191
Data Quality : B

Control Device : Uncontrolled
Reference(s) : 90
Data Source : Distrillates from five samples of lithographic, rotogravure, flexographic, and letter press inks from four printing companies composite based on 1978 emissions data. Semivolatiles analyzed by GC/MS.

SCC Assignments: 40588801

Saroad	CAS Number	Name	Spec_MW	Spec_WT	Peak
43114		ISOMERS OF PENTADECANE	212.41	0.15	
43125		C10 OLEFINS	140.27	0.18	
43155		ISOMERS OF HEPTADECANE	240.47	3.69	
43156		ISOMERS OF OCTADECANE	254.50	1.69	
43248	110-82-7	CYCLOHEXANE	84.16	4.57	
43273	110-83-8	CYCLOHEXENE	82.14	0.22	
43332	106-21-8	DIMETHYLOCTANOL	158.32	0.06	
43333		DIMETHYLHEPTANOL	144.26	0.04	
43334		METHYLHEPTANOL	130.26	0.07	
43335		METHOXYETHOXYETHANOL	120.15	0.04	
43434	109-60-4	N-PROPYL ACETATE	102.15	27.44	
43444	108-21-4	ISOPROPYL ACETATE	102.13	30.10	
43474		METHYLMETHYLPROPENOATE	100.13	0.03	
43475		METHYLETHYLPENTANOATE	144.22	0.03	
45304		C5-ALKYLPHENOLS	164.25	0.18	
45330	90-43-7	BIPHENYLOL	170.22	0.07	
45402	65-85-0	BENZOIC ACID	122.13	0.02	
45452	84-74-2	DIBUTYL PHTHALATE	278.35	9.99	
45456		BUTYLISOPROPYLPHTHALATE	264.32	12.76	
45706		N-PHENYLANILINE	169.24	0.04	
45731	58-84-9	TOLUENE DIISOCYANATE	174.17	0.03	
90030	544-76-3	HEXADECANE	226.45	3.32	
90049		METHYLUNDECANE	170.34	1.70	
90071		DIMETHYLUNDECANE	184.36	0.25	
90077		ETHYLOCTANE	142.29	0.44	
90096		TRIMETHYLOCTANES	156.31	0.81	
90097		TRIMETHYLDECANE	184.36	0.30	
90125	629-94-7	HENEICOSANE	296.59	0.30	
90126	112-95-8	EICOSANE	282.56	0.48	
90127		NONADECANE	268.53	0.89	
90130	87-44-5	CARYOPHYLLENE	204.36	0.11	
TOTAL				100.00	

3.22 ORGANIC CHEMICAL STORAGE

Five basic storage vessel designs are used for organic chemical storage: fixed roof, external floating roof, internal floating roof, variable vapor space, and pressure. Typically, organic liquids in the chemical industry are composed of pure chemicals or mixtures of chemicals with similar true vapor pressures. Sources of emissions from organic chemicals in storage include: fixed roof breathing losses, fixed roof working losses, floating roof standing storage losses, floating roof withdrawal losses, variable vapor space filling losses, and pressure tank losses.

```
VOC Profile Speciation Report
------------------------------------------------------------------------------------
Profile Name   : Fixed Roof Tank - Hexane
Profile Number : 0230
Data Quality   : E
------------------------------------------------------------------------------------
Control Device : Uncontrolled
Reference(s)   : 59
Data Source    : Engineering judgement; information based on composite
                 survey data and inspection of stored product formula-
                 tion.

SCC Assignments: 40717603, 40717604

------------------------------------------------------------------------------------
Saroad      CAS Number     Name                               Spec_MW  Spec_WT  Peak
------------------------------------------------------------------------------------
43231        110-54-3      HEXANE                               86.17   100.00
------------------------------------------------------------------------------------
TOTAL                                                                   100.00
====================================================================================
```

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```
VOC Profile Speciation Report
--------------------------------------------------------------------------------
Profile Name   : Fixed Roof Tank - Cyclohexane
Profile Number : 0299
Data Quality   : E
--------------------------------------------------------------------------------
Control Device : Uncontrolled
Reference(s)   : 59
Data Source    : Engineering judgement; information based on composite
                 survey data and inspection of stored product content.

SCC Assignments: 40717601, 40717602

--------------------------------------------------------------------------------
Saroad      CAS Number      Name                              Spec_MW  Spec_WT  Peak
--------------------------------------------------------------------------------
43248         110-82-7      CYCLOHEXANE                         84.16   100.00
--------------------------------------------------------------------------------
TOTAL                                                                  100.00
================================================================================
VOC Profile Speciation Report
--------------------------------------------------------------------------------
Profile Name   : Fixed Roof Tank - Heptane
Profile Number : 0301
Data Quality   : E
--------------------------------------------------------------------------------
Control Device : Uncontrolled
Reference(s)   : 59
Data Source    : Engineering judgement; information based on composite
                 survey data and inspection of stored product formulatio

SCC Assignments: 40701605, 40701606

--------------------------------------------------------------------------------
Saroad      CAS Number      Name                           Spec_MW  Spec_WT  Peak
--------------------------------------------------------------------------------
43232        142-82-5       HEPTANE                         100.20   100.00
--------------------------------------------------------------------------------
TOTAL                                                               100.00
================================================================================
VOC Profile Speciation Report
-------------------------------------------------------------------------------
Profile Name   : Printing Press - Flexographic, n-Propyl Alcohol
Profile Number : 0304
Data Quality   : E
-------------------------------------------------------------------------------
Control Device : Uncontrolled
Reference(s)   : 59
Data Source    : Engineering judgement; information based on composite
                 survey data and inspection of solvent formulation.

SCC Assignments: 40700817, 40700818

-------------------------------------------------------------------------------
Saroad      CAS Number     Name                              Spec_MW  Spec_WT  Peak
-------------------------------------------------------------------------------
43303          71-23-8     N-PROPYL ALCOHOL                    60.10   100.00
-------------------------------------------------------------------------------
TOTAL                                                                  100.00
===============================================================================
VOC Profile Speciation Report
--------------------------------------------------------------------------------
Profile Name   : Organic Chemical Storage - Methylamyl Ketone
Profile Number : 1055
Data Quality   : E
--------------------------------------------------------------------------------
Control Device : Not reported
Reference(s)   : 1
Data Source    : Engineering judgement.

SCC Assignments: 40706813, 40706814

--------------------------------------------------------------------------------
Saroad      CAS Number      Name                               Spec_MW   Spec_WT   Peak
--------------------------------------------------------------------------------
43562         110-43-0      METHYL AMYL KETONE                 114.21    100.00
--------------------------------------------------------------------------------
TOTAL                                                                    100.00
================================================================================
VOC Profile Speciation Report
--------------------------------------------------------------------------------
Profile Name   : Organic Chemical Storage - N-Propyl Acetate
Profile Number : 1069
Data Quality   : E
--------------------------------------------------------------------------------
Control Device : Not reported
Reference(s)   : 1
Data Source    : Engineering judgement.

SCC Assignments: 40704421, 40704422

--------------------------------------------------------------------------------
Saroad      CAS Number      Name                           Spec_MW   Spec_WT   Peak
--------------------------------------------------------------------------------
43434         109-60-4      N-PROPYL ACETATE                102.15    100.00
--------------------------------------------------------------------------------
TOTAL                                                                100.00
================================================================================
VOC Profile Speciation Report
-------------------------------------------------------------------------------
Profile Name   : Organic Chemical Storage - i-Butyl, i-Butyrate
Profile Number : 1087
Data Quality   : E
-------------------------------------------------------------------------------
Control Device : Not reported
Reference(s)   : 1
Data Source    : Engineering judgement.

SCC Assignments: 40704423, 40704424

-------------------------------------------------------------------------------
Saroad       CAS Number       Name                            Spec_MW  Spec_WT   Peak
-------------------------------------------------------------------------------
43451          297-85-8       ISOBUTYL ISOBUTYRATE            144.21    100.00
-------------------------------------------------------------------------------
TOTAL                                                                   100.00
===============================================================================
VOC Profile Speciation Report
-------------------------------------------------------------------------------------
Profile Name   : 1-PENTENE
Profile Number : 1103
Data Quality   : E
-------------------------------------------------------------------------------------
Control Device : Controlled/Uncontrolled
Reference(s)   : 76
Data Source    : Engineering judgement.

SCC Assignments: 40782009

-------------------------------------------------------------------------------------
Saroad       CAS Number       Name                              Spec_MW   Spec_WT   Peak
-------------------------------------------------------------------------------------
43224          109-67-1       1-PENTENE                          70.13    100.00
-------------------------------------------------------------------------------------
TOTAL                                                                     100.00
=====================================================================================
VOC Profile Speciation Report
-----------------------------------------------------------------------------------------
Profile Name   : ACETALDEHYDE
Profile Number : 1104
Data Quality   : E
-----------------------------------------------------------------------------------------
Control Device : Controlled/Uncontrolled
Reference(s)   : 76
Data Source    : Engineering judgement.

SCC Assignments: 40781201

-----------------------------------------------------------------------------------------
Saroad       CAS Number       Name                                Spec_MW   Spec_WT   Peak
-----------------------------------------------------------------------------------------
43503           75-07-0       ACETALDEHYDE                          44.05    100.00
-----------------------------------------------------------------------------------------
TOTAL                                                                        100.00
=========================================================================================
VOC Profile Speciation Report
------------------------------------------------------------------------------
Profile Name   : ACETIC ACID
Profile Number : 1105
Data Quality   : E
------------------------------------------------------------------------------
Control Device : Controlled/Uncontrolled
Reference(s)   : 76
Data Source    : Engineering judgement.

SCC Assignments: 40704001, 40704002

------------------------------------------------------------------------------
Saroad      CAS Number      Name                          Spec_MW   Spec_WT   Peak
------------------------------------------------------------------------------
43404         64-19-7       ACETIC ACID                     60.05    100.00
------------------------------------------------------------------------------
TOTAL                                                                100.00
==============================================================================
VOC Profile Speciation Report
--------------------------------------------------------------------------------
Profile Name   : ACETIC ANHYDRIDE
Profile Number : 1106
Data Quality   : E
--------------------------------------------------------------------------------
Control Device : Controlled/Uncontrolled
Reference(s)   : 76
Data Source    : Engineering judgement.

SCC Assignments: 40700401, 40700402

--------------------------------------------------------------------------------
Saroad      CAS Number     Name                              Spec_MW  Spec_WT  Peak
--------------------------------------------------------------------------------
43604        108-24-7      ACETIC ANHYDRIDE                   102.09   100.00
--------------------------------------------------------------------------------
TOTAL                                                                  100.00
================================================================================
VOC Profile Speciation Report
--------------------------------------------------------------------------------
Profile Name   : ACROLEIN
Profile Number : 1107
Data Quality   : E
--------------------------------------------------------------------------------
Control Device : Controlled/Uncontrolled
Reference(s)   : 76
Data Source    : Engineering judgement.

SCC Assignments: 40781202

--------------------------------------------------------------------------------
Saroad       CAS Number       Name                             Spec_MW  Spec_WT   Peak
--------------------------------------------------------------------------------
43505          107-02-8       ACROLEIN                           56.07   100.00
--------------------------------------------------------------------------------
TOTAL                                                                     100.00
================================================================================
VOC Profile Speciation Report
--------------------------------------------------------------------------------
Profile Name   : ACRYLIC ACID
Profile Number : 1108
Data Quality   : E
--------------------------------------------------------------------------------
Control Device : Controlled/Uncontrolled
Reference(s)   : 76
Data Source    : Engineering judgement.

SCC Assignments: 40704003, 40704004

--------------------------------------------------------------------------------
Saroad      CAS Number      Name                             Spec_MW   Spec_WT   Peak
--------------------------------------------------------------------------------
43407          79-10-7      ACRYLIC ACID                      72.06     100.00
--------------------------------------------------------------------------------
TOTAL                                                                   100.00
================================================================================
VOC Profile Speciation Report
-------------------------------------------------------------------------------
Profile Name   : ACRYLONITRILE
Profile Number : 1109
Data Quality   : E
-------------------------------------------------------------------------------
Control Device : Controlled/Uncontrolled
Reference(s)   : 76
Data Source    : Engineering judgement.

SCC Assignments: 40707601, 40707602

-------------------------------------------------------------------------------
Saroad      CAS Number      Name                          Spec_MW  Spec_WT  Peak
-------------------------------------------------------------------------------
43704         107-13-1      ACRYLONITRILE                   53.06   100.00
-------------------------------------------------------------------------------
TOTAL                                                               100.00
===============================================================================
VOC Profile Speciation Report
-------------------------------------------------------------------------------
Profile Name   : ADIPIC ACID
Profile Number : 1110
Data Quality   : E
-------------------------------------------------------------------------------
Control Device : Controlled/Uncontrolled
Reference(s)   : 76
Data Source    : Engineering judgement.

SCC Assignments: 40704005

-------------------------------------------------------------------------------
Saroad      CAS Number      Name                              Spec_MW  Spec_WT  Peak
-------------------------------------------------------------------------------
43409        124-04-9       ADIPIC ACID                        146.14   100.00
-------------------------------------------------------------------------------
TOTAL                                                                   100.00
===============================================================================
VOC Profile Speciation Report
-------------------------------------------------------------------------------
Profile Name   : ANILINE
Profile Number : 1111
Data Quality   : E
-------------------------------------------------------------------------------
Control Device : Controlled/Uncontrolled
Reference(s)   : 76
Data Source    : Engineering judgement.

SCC Assignments: 40703201, 40703202

-------------------------------------------------------------------------------
Saroad      CAS Number      Name                          Spec_MW  Spec_WT   Peak
-------------------------------------------------------------------------------
45701         62-53-3       ANILINE                         93.13   100.00
-------------------------------------------------------------------------------
TOTAL                                                               100.00
===============================================================================
```

VOC Profile Speciation Report

Profile Name : BENZYL CHLORIDE
Profile Number : 1112
Data Quality : E

Control Device : Controlled/Uncontrolled
Reference(s) : 76
Data Source : Engineering judgement.

SCC Assignments: 40706001, 40706002

Saroad	CAS Number	Name	Spec_MW	Spec_WT	Peak
45810	100-44-7	BENZYL CHLORIDE	126.59	100.00	
TOTAL				100.00	

```
VOC Profile Speciation Report
--------------------------------------------------------------------------------
Profile Name   : BUTYL ACRYLATE
Profile Number : 1114
Data Quality   : E
--------------------------------------------------------------------------------
Control Device : Controlled/Uncontrolled
Reference(s)   : 76
Data Source    : Engineering judgement.

SCC Assignments: 40704403, 40704404

--------------------------------------------------------------------------------
Saroad      CAS Number      Name                           Spec_MW  Spec_WT  Peak
--------------------------------------------------------------------------------
43440         141-32-2      BUTYL ACRYLATE                  128.17   100.00
--------------------------------------------------------------------------------
TOTAL                                                                100.00
================================================================================
VOC Profile Speciation Report
--------------------------------------------------------------------------------
Profile Name   : BUTYL CARBITOL
Profile Number : 1115
Data Quality   : E
--------------------------------------------------------------------------------
Control Device : Controlled/Uncontrolled
Reference(s)   : 76
Data Source    : Engineering judgement.

SCC Assignments: 40705201, 40705202

--------------------------------------------------------------------------------
Saroad      CAS Number      Name                            Spec_MW  Spec_WT  Peak
--------------------------------------------------------------------------------
43379        112-34-5       BUTYL CARBITOL                   162.23   100.00
--------------------------------------------------------------------------------
TOTAL                                                                 100.00
================================================================================
VOC Profile Speciation Report
--------------------------------------------------------------------------------
Profile Name   : BUTYL CELLOSOLVE
Profile Number : 1116
Data Quality   : E
--------------------------------------------------------------------------------
Control Device : Controlled/Uncontrolled
Reference(s)   : 76
Data Source    : Engineering judgement.

SCC Assignments: 40705203, 40705204

--------------------------------------------------------------------------------
Saroad      CAS Number      Name                          Spec_MW   Spec_WT   Peak
--------------------------------------------------------------------------------
43308        111-76-2       BUTYL CELLOSOLVE              118.17     100.00
--------------------------------------------------------------------------------
TOTAL                                                                100.00
================================================================================
VOC Profile Speciation Report
--------------------------------------------------------------------------------
Profile Name   : CARBITOL
Profile Number : 1118
Data Quality   : E
--------------------------------------------------------------------------------
Control Device : Controlled/Uncontrolled
Reference(s)   : 76
Data Source    : Engineering judgement.

SCC Assignments: 40200905, 40500302, 40705205, 40705206

--------------------------------------------------------------------------------
Saroad      CAS Number      Name                            Spec_MW  Spec_WT  Peak
--------------------------------------------------------------------------------
43377         111-90-0      CARBITOL                        134.18    100.00
--------------------------------------------------------------------------------
TOTAL                                                                 100.00
================================================================================
VOC Profile Speciation Report
--------------------------------------------------------------------------------
Profile Name   : CARBON TETRACHLORIDE
Profile Number : 1119
Data Quality   : E
--------------------------------------------------------------------------------
Control Device : Controlled/Uncontrolled
Reference(s)   : 76
Data Source    : Engineering Judgement

SCC Assignments: 40706005, 40706006, 40722001, 40722002

--------------------------------------------------------------------------------
Saroad      CAS Number      Name                          Spec_MW   Spec_WT   Peak
--------------------------------------------------------------------------------
43804         56-23-5       CARBON TETRACHLORIDE           153.84    100.00
--------------------------------------------------------------------------------
TOTAL                                                                100.00
================================================================================
VOC Profile Speciation Report
--------------------------------------------------------------------------------
Profile Name   : CHLOROFORM
Profile Number : 1121
Data Quality   : E
--------------------------------------------------------------------------------
Control Device : Controlled/Uncontrolled
Reference(s)   : 76
Data Source    : Engineering judgement.

SCC Assignments: 40722003, 40722004

--------------------------------------------------------------------------------
Saroad       CAS Number       Name                             Spec_MW   Spec_WT   Peak
--------------------------------------------------------------------------------
43803          67-66-3        CHLOROFORM                       119.39    100.00
--------------------------------------------------------------------------------
TOTAL                                                                    100.00
================================================================================
VOC Profile Speciation Report
------------------------------------------------------------------------------------------
Profile Name   : CRESOL
Profile Number : 1122
Data Quality   : E
------------------------------------------------------------------------------------------
Control Device : Controlled/Uncontrolled
Reference(s)   : 76
Data Source    : Engineering judgement.

SCC Assignments: 40703603, 40703604

------------------------------------------------------------------------------------------
Saroad       CAS Number       Name                                  Spec_MW   Spec_WT   Peak
------------------------------------------------------------------------------------------
45605        1319-77-3        CRESOL                                108.14    100.00
------------------------------------------------------------------------------------------
TOTAL                                                                         100.00
==========================================================================================
VOC Profile Speciation Report
---------------------------------------------------------------------------------
Profile Name   : CUMENE
Profile Number : 1123
Data Quality   : E
---------------------------------------------------------------------------------
Control Device : Controlled/Uncontrolled
Reference(s)   : 76
Data Source    : Engineering judgement.

SCC Assignments: 40703605, 40703606

---------------------------------------------------------------------------------
Saroad      CAS Number      Name                              Spec_MW   Spec_WT   Peak
---------------------------------------------------------------------------------
45210          98-82-8      CUMENE (ISOPROPYL BENZENE)        120.20    100.00
---------------------------------------------------------------------------------
TOTAL                                                                   100.00
=================================================================================
VOC Profile Speciation Report
--------------------------------------------------------------------------------
Profile Name   : CYCLOHEXANOL
Profile Number : 1124
Data Quality   : E
--------------------------------------------------------------------------------
Control Device : Controlled/Uncontrolled
Reference(s)   : 76
Data Source    : Engineering judgement.

SCC Assignments: 40700807, 40700808

--------------------------------------------------------------------------------
Saroad      CAS Number     Name                           Spec_MW  Spec_WT   Peak
--------------------------------------------------------------------------------
43317        108-93-0      CYCLOHEXANOL                   100.16    100.00
--------------------------------------------------------------------------------
TOTAL                                                               100.00
================================================================================
VOC Profile Speciation Report
--------------------------------------------------------------------------------
Profile Name   : CYCLOHEXANONE
Profile Number : 1125
Data Quality   : E
--------------------------------------------------------------------------------
Control Device : Controlled/Uncontrolled
Reference(s)   : 76
Data Source    : Engineering judgement.

SCC Assignments: 40706801, 40706802

--------------------------------------------------------------------------------
Saroad      CAS Number      Name                            Spec_MW  Spec_WT  Peak
--------------------------------------------------------------------------------
43561         108-94-1      CYCLOHEXANONE                     98.15   100.00
--------------------------------------------------------------------------------
TOTAL                                                                 100.00
================================================================================
VOC Profile Speciation Report
------------------------------------------------------------------------------------
Profile Name   : CYCLOPENTENE
Profile Number : 1126
Data Quality   : E
------------------------------------------------------------------------------------
Control Device : Controlled/Uncontrolled
Reference(s)   : 76
Data Source    : Engineering judgement.

SCC Assignments: 40782011

------------------------------------------------------------------------------------
Saroad       CAS Number       Name                                Spec_MW   Spec_WT   Peak
------------------------------------------------------------------------------------
43292          142-29-0       CYCLOPENTENE                          68.11    100.00
------------------------------------------------------------------------------------
TOTAL                                                                        100.00
====================================================================================
VOC Profile Speciation Report
-------------------------------------------------------------------------------
Profile Name   : DIETHYLENE GLYCOL
Profile Number : 1127
Data Quality   : E
-------------------------------------------------------------------------------
Control Device : Controlled/Uncontrolled
Reference(s)   : 76
Data Source    : Engineering judgement.

SCC Assignments: 40705209, 40705210

-------------------------------------------------------------------------------
Saroad      CAS Number      Name                            Spec_MW   Spec_WT   Peak
-------------------------------------------------------------------------------
43373        111-46-6       DIETHYLENE GLYCOL               106.12     100.00
-------------------------------------------------------------------------------
TOTAL                                                                 100.00
===============================================================================
VOC Profile Speciation Report
--------------------------------------------------------------------------------
Profile Name   : DIISOPROPYL BENZENE
Profile Number : 1128
Data Quality   : E
--------------------------------------------------------------------------------
Control Device : Controlled/Uncontrolled
Reference(s)   : 76
Data Source    : Engineering judgement.

SCC Assignments: 40703607, 40703608

--------------------------------------------------------------------------------
Saroad      CAS Number      Name                            Spec_MW  Spec_WT  Peak
--------------------------------------------------------------------------------
45236                       DIISOPROPYL BENZENE             162.28    100.00
--------------------------------------------------------------------------------
TOTAL                                                                 100.00
================================================================================
VOC Profile Speciation Report
--------------------------------------------------------------------------------
Profile Name   : DIPROPYLENE GLYCOL
Profile Number : 1129
Data Quality   : E
--------------------------------------------------------------------------------
Control Device : Controlled/Uncontrolled
Reference(s)   : 76
Data Source    : Engineering judgement.

SCC Assignments: 40705605, 40705606

--------------------------------------------------------------------------------
Saroad      CAS Number      Name                            Spec_MW   Spec_WT   Peak
--------------------------------------------------------------------------------
43374         106-62-7      DIPROPYLENE GLYCOL              134.18     100.00
--------------------------------------------------------------------------------
TOTAL                                                                  100.00
================================================================================
VOC Profile Speciation Report
-------------------------------------------------------------------------------------
Profile Name   : DODECENE
Profile Number : 1130
Data Quality   : E
-------------------------------------------------------------------------------------
Control Device : Controlled/Uncontrolled
Reference(s)   : 76
Data Source    : Engineering judgement.

SCC Assignments: 40702001, 40702002

-------------------------------------------------------------------------------------
Saroad      CAS Number      Name                             Spec_MW   Spec_WT   Peak
-------------------------------------------------------------------------------------
90001         112-41-4      DODECENE                          168.32    100.00
-------------------------------------------------------------------------------------
TOTAL                                                                   100.00
=====================================================================================
VOC Profile Speciation Report
--------------------------------------------------------------------------------
Profile Name   : EPICHLOROHYDRIN
Profile Number : 1131
Data Quality   : E
--------------------------------------------------------------------------------
Control Device : Controlled/Uncontrolled
Reference(s)   : 76
Data Source    : Engineering judgement.

SCC Assignments: 40706013, 40706014

--------------------------------------------------------------------------------
Saroad      CAS Number      Name                              Spec_MW  Spec_WT  Peak
--------------------------------------------------------------------------------
43863         106-89-8      EPICHLOROHYDRIN                     92.53   100.00
--------------------------------------------------------------------------------
TOTAL                                                                   100.00
================================================================================
VOC Profile Speciation Report
--------------------------------------------------------------------------------
Profile Name   : ETHANOLAMINES
Profile Number : 1132
Data Quality   : E
--------------------------------------------------------------------------------
Control Device : Controlled/Uncontrolled
Reference(s)   : 76
Data Source    : Engineering judgement.

SCC Assignments: 40703203, 40703204

--------------------------------------------------------------------------------
Saroad       CAS Number      Name                          Spec_MW  Spec_WT  Peak
--------------------------------------------------------------------------------
43777        141-43-5        ETHANOLAMINE                    61.08   100.00
--------------------------------------------------------------------------------
TOTAL                                                                100.00
================================================================================
VOC Profile Speciation Report
-------------------------------------------------------------------------------------
Profile Name   : ETHYL ACRYLATE
Profile Number : 1134
Data Quality   : E
-------------------------------------------------------------------------------------
Control Device : Controlled/Uncontrolled
Reference(s)   : 76
Data Source    : Engineering judgement.

SCC Assignments: 40704407, 40704408

-------------------------------------------------------------------------------------
Saroad      CAS Number      Name                            Spec_MW  Spec_WT  Peak
-------------------------------------------------------------------------------------
43438         140-88-5      ETHYL ACRYLATE                   100.11   100.00
-------------------------------------------------------------------------------------
TOTAL                                                                 100.00
=====================================================================================
VOC Profile Speciation Report
------------------------------------------------------------------------------------
Profile Name   : ETHYL BENZENE
Profile Number : 1135
Data Quality   : E
------------------------------------------------------------------------------------
Control Device : Controlled/Uncontrolled
Reference(s)   : 76
Data Source    : Engineering judgement.

SCC Assignments: 40703609, 40703610

------------------------------------------------------------------------------------
Saroad       CAS Number       Name                             Spec_MW  Spec_WT   Peak
------------------------------------------------------------------------------------
45203          100-41-4       ETHYLBENZENE                     106.16    100.00
------------------------------------------------------------------------------------
TOTAL                                                                    100.00
====================================================================================
VOC Profile Speciation Report
--------------------------------------------------------------------------------
Profile Name   : ETHYL ETHER
Profile Number : 1136
Data Quality   : E
--------------------------------------------------------------------------------
Control Device : Controlled/Uncontrolled
Reference(s)   : 76
Data Source    : Engineering judgement.

SCC Assignments: 40720801, 40720802

--------------------------------------------------------------------------------
Saroad      CAS Number      Name                               Spec_MW  Spec_WT  Peak
--------------------------------------------------------------------------------
43351         60-29-7       ETHYL ETHER                          74.12   100.00
--------------------------------------------------------------------------------
TOTAL                                                                    100.00
================================================================================
VOC Profile Speciation Report
------------------------------------------------------------------------------------------
Profile Name   : ETHYL MERCAPTAN
Profile Number : 1137
Data Quality   : E
------------------------------------------------------------------------------------------
Control Device : Controlled/Uncontrolled
Reference(s)   : 76
Data Source    : Engineering judgement.

SCC Assignments: 40723201, 40723202

------------------------------------------------------------------------------------------
Saroad      CAS Number      Name                                  Spec_MW   Spec_WT   Peak
------------------------------------------------------------------------------------------
43902          75-08-1      ETHYL MERCAPTAN                         62.13    100.00
------------------------------------------------------------------------------------------
TOTAL                                                                        100.00
==========================================================================================
VOC Profile Speciation Report
----------------------------------------------------------------------------------------
Profile Name   : ETHYLENE DIBROMIDE
Profile Number : 1138
Data Quality   : E
----------------------------------------------------------------------------------------
Control Device : Controlled/Uncontrolled
Reference(s)   : 76
Data Source    : Engineering judgement.

SCC Assignments: 40706015, 40706016

----------------------------------------------------------------------------------------
Saroad      CAS Number      Name                              Spec_MW   Spec_WT   Peak
----------------------------------------------------------------------------------------
43837         106-93-4      ETHYLENE DIBROMIDE                 187.88    100.00
----------------------------------------------------------------------------------------
TOTAL                                                                    100.00
========================================================================================
VOC Profile Speciation Report
--------------------------------------------------------------------------------
Profile Name   : ETHYLENEAMINES
Profile Number : 1139
Data Quality   : E
--------------------------------------------------------------------------------
Control Device : Controlled/Uncontrolled
Reference(s)   : 76
Data Source    : Engineering judgement.

SCC Assignments: 40703205, 40703206

--------------------------------------------------------------------------------
Saroad      CAS Number      Name                           Spec_MW  Spec_WT  Peak
--------------------------------------------------------------------------------
43778                       ETHYLENEAMINES                  45.08   100.00
--------------------------------------------------------------------------------
TOTAL                                                               100.00
================================================================================
VOC Profile Speciation Report
------------------------------------------------------------------------------
Profile Name   : FORMALDEHYDE
Profile Number : 1140
Data Quality   : E
------------------------------------------------------------------------------
Control Device : Controlled/Uncontrolled
Reference(s)   : 76
Data Source    : Engineering judgement.

SCC Assignments: 40717207, 40717208

------------------------------------------------------------------------------
Saroad      CAS Number       Name                         Spec_MW  Spec_WT  Peak
------------------------------------------------------------------------------
43502         50-00-0        FORMALDEHYDE                   30.03   100.00
------------------------------------------------------------------------------
TOTAL                                                               100.00
==============================================================================
VOC Profile Speciation Report
--------------------------------------------------------------------------------
Profile Name   : FORMIC ACID
Profile Number : 1141
Data Quality   : E
--------------------------------------------------------------------------------
Control Device : Controlled/Uncontrolled
Reference(s)   : 76
Data Source    : Engineering judgement.

SCC Assignments: 40704007, 40704008

--------------------------------------------------------------------------------
Saroad      CAS Number      Name                              Spec_MW  Spec_WT  Peak
--------------------------------------------------------------------------------
43403         64-18-6       FORMIC ACID                        46.03   100.00
--------------------------------------------------------------------------------
TOTAL                                                                  100.00
================================================================================
VOC Profile Speciation Report
-------------------------------------------------------------------------------------
Profile Name   : HEPTENES
Profile Number : 1144
Data Quality   : E
-------------------------------------------------------------------------------------
Control Device : Controlled/Uncontrolled
Reference(s)   : 76
Data Source    : Engineering judgement.

SCC Assignments: 40702003, 40702004

-------------------------------------------------------------------------------------
Saroad      CAS Number      Name                                Spec_MW  Spec_WT  Peak
-------------------------------------------------------------------------------------
43264                       HEPTENE                              98.18    100.00
-------------------------------------------------------------------------------------
TOTAL                                                                     100.00
=====================================================================================
VOC Profile Speciation Report
-------------------------------------------------------------------------------------
Profile Name   : ISOBUTYRLDEHYDE
Profile Number : 1145
Data Quality   : E
-------------------------------------------------------------------------------------
Control Device : Controlled/Uncontrolled
Reference(s)   : 76
Data Source    : Engineering judgement.

SCC Assignments: 40717209, 40717210

-------------------------------------------------------------------------------------
Saroad       CAS Number       Name                              Spec_MW  Spec_WT   Peak
-------------------------------------------------------------------------------------
43511          78-84-2        ISOBUTYRALDEHYDE                   72.11    100.00
-------------------------------------------------------------------------------------
TOTAL                                                                     100.00
=====================================================================================
VOC Profile Speciation Report
-------------------------------------------------------------------------------
Profile Name   : ISOBUTYL ACRYLATE
Profile Number : 1146
Data Quality   : E
-------------------------------------------------------------------------------
Control Device : Controlled/Uncontrolled
Reference(s)   : 76
Data Source    : Engineering judgement.

SCC Assignments: 40704409, 40704410

-------------------------------------------------------------------------------
Saroad      CAS Number       Name                          Spec_MW  Spec_WT  Peak
-------------------------------------------------------------------------------
43468        106-63-8       ISOBUTYL ACRYLATE               128.19   100.00
-------------------------------------------------------------------------------
TOTAL                                                                100.00
===============================================================================
VOC Profile Speciation Report
--------------------------------------------------------------------------------
Profile Name   : ISOBUTYL ALCOHOL
Profile Number : 1147
Data Quality   : E
--------------------------------------------------------------------------------
Control Device : Controlled/Uncontrolled
Reference(s)   : 76
Data Source    : Engineering judgement.

SCC Assignments: 40700811, 40700812

--------------------------------------------------------------------------------
Saroad      CAS Number      Name                              Spec_MW  Spec_WT  Peak
--------------------------------------------------------------------------------
43306         78-83-1       ISOBUTYL ALCOHOL                    74.12   100.00
--------------------------------------------------------------------------------
TOTAL                                                                   100.00
================================================================================
```

VOC Profile Speciation Report

Profile Name : ISOPRENE
Profile Number : 1148
Data Quality : E

Control Device : Controlled/Uncontrolled
Reference(s) : 76
Data Source : Engineering judgement.

SCC Assignments: 40782007

Saroad	CAS Number	Name	Spec_MW	Spec_WT	Peak
43243	78-79-5	ISOPRENE	68.12	100.00	
TOTAL				100.00	

```
VOC Profile Speciation Report
------------------------------------------------------------------------------------
Profile Name   : METHYL ACETATE
Profile Number : 1150
Data Quality   : E
------------------------------------------------------------------------------------
Control Device : Controlled/Uncontrolled
Reference(s)   : 76
Data Source    : Engineering judgement.

SCC Assignments: 40200916, 40704413, 40704414

------------------------------------------------------------------------------------
Saroad      CAS Number       Name                             Spec_MW   Spec_WT   Peak
------------------------------------------------------------------------------------
43432          79-20-9       METHYLACETATE                      74.08    100.00
------------------------------------------------------------------------------------
TOTAL                                                                    100.00
====================================================================================
VOC Profile Speciation Report
-------------------------------------------------------------------------------
Profile Name   : METHYL ACRYLATE
Profile Number : 1151
Data Quality   : E
-------------------------------------------------------------------------------
Control Device : Controlled/Uncontrolled
Reference(s)   : 76
Data Source    : Engineering judgement.

SCC Assignments: 40704415, 40704416

-------------------------------------------------------------------------------
Saroad     CAS Number      Name                              Spec_MW  Spec_WT  Peak
-------------------------------------------------------------------------------
43437        96-33-3       METHYL ACRYLATE                    86.09   100.00
-------------------------------------------------------------------------------
TOTAL                                                                 100.00
===============================================================================
VOC Profile Speciation Report
-------------------------------------------------------------------------------------
Profile Name   : METHYL CARBITOL
Profile Number : 1152
Data Quality   : E
-------------------------------------------------------------------------------------
Control Device : Controlled/Uncontrolled
Reference(s)   : 76
Data Source    : Engineering judgement.

SCC Assignments: 40705211, 40705212

-------------------------------------------------------------------------------------
Saroad      CAS Number      Name                              Spec_MW   Spec_WT   Peak
-------------------------------------------------------------------------------------
43378         111-77-3      METHYL CARBITOL                   120.15     100.00
-------------------------------------------------------------------------------------
TOTAL                                                                    100.00
=====================================================================================
VOC Profile Speciation Report
----------------------------------------------------------------------------------------
Profile Name   : METHYL CELLOSOLVE
Profile Number : 1153
Data Quality   : E
----------------------------------------------------------------------------------------
Control Device : Controlled/Uncontrolled
Reference(s)   : 76
Data Source    : Engineering judgement.

SCC Assignments: 40705213, 40705214

----------------------------------------------------------------------------------------
Saroad      CAS Number      Name                              Spec_MW   Spec_WT   Peak
----------------------------------------------------------------------------------------
43310         109-86-4      METHYL CELLOSOLVE                  76.11     100.00
----------------------------------------------------------------------------------------
TOTAL                                                                    100.00
========================================================================================
VOC Profile Speciation Report
--------------------------------------------------------------------------------
Profile Name   : METHYL STYRENE
Profile Number : 1154
Data Quality   : E
--------------------------------------------------------------------------------
Control Device : Controlled/Uncontrolled
Reference(s)   : 76
Data Source    : Engineering judgement.

SCC Assignments: 40703611, 40703612

--------------------------------------------------------------------------------
Saroad      CAS Number      Name                              Spec_MW  Spec_WT  Peak
--------------------------------------------------------------------------------
45221       25013-15-4      METHYL STYRENE                    118.19    100.00
--------------------------------------------------------------------------------
TOTAL                                                                   100.00
================================================================================
VOC Profile Speciation Report
--------------------------------------------------------------------------------
Profile Name   : METHYLALLENE
Profile Number : 1155
Data Quality   : E
--------------------------------------------------------------------------------
Control Device : Controlled/Uncontrolled
Reference(s)   : 76
Data Source    : Engineering judgement.

SCC Assignments: 40782008

--------------------------------------------------------------------------------
Saroad      CAS Number      Name                              Spec_MW  Spec_WT  Peak
--------------------------------------------------------------------------------
90011                       METHYLALLENE                        54.09   100.00
--------------------------------------------------------------------------------
TOTAL                                                                   100.00
================================================================================
VOC Profile Speciation Report
--------------------------------------------------------------------------------
Profile Name   : METHYL t-BUTYL ETHER
Profile Number : 1158
Data Quality   : E
--------------------------------------------------------------------------------
Control Device : Controlled/Uncontrolled
Reference(s)   : 76
Data Source    : Engineering judgement.

SCC Assignments: 40704801, 40704802

--------------------------------------------------------------------------------
Saroad      CAS Number      Name                              Spec_MW  Spec_WT  Peak
--------------------------------------------------------------------------------
43376        628-28-4       METHYL T-BUTYL ETHER                88.15   100.00
--------------------------------------------------------------------------------
TOTAL                                                                   100.00
================================================================================
VOC Profile Speciation Report
--------------------------------------------------------------------------------
Profile Name   : M-XYLENE
Profile Number : 1159
Data Quality   : E
--------------------------------------------------------------------------------
Control Device : Controlled/Uncontrolled
Reference(s)   : 76
Data Source    : Engineering judgement.

SCC Assignments: 40703617, 40703618

--------------------------------------------------------------------------------
Saroad      CAS Number     Name                            Spec_MW  Spec_WT  Peak
--------------------------------------------------------------------------------
45205         108-38-3     M-XYLENE                        106.16    100.00
--------------------------------------------------------------------------------
TOTAL                                                                100.00
================================================================================
VOC Profile Speciation Report
--------------------------------------------------------------------------------
Profile Name   : NITROBENZENE
Profile Number : 1160
Data Quality   : E
--------------------------------------------------------------------------------
Control Device : Controlled/Uncontrolled
Reference(s)   : 76
Data Source    : Engineering judgement.

SCC Assignments: 40708001, 40708002

--------------------------------------------------------------------------------
Saroad      CAS Number      Name                           Spec_MW   Spec_WT   Peak
--------------------------------------------------------------------------------
45702          98-95-3      NITROBENZENE                    123.11    100.00
--------------------------------------------------------------------------------
TOTAL                                                                 100.00
================================================================================
VOC Profile Speciation Report
-------------------------------------------------------------------------------------
Profile Name   : N-BUTRALDEHYDE
Profile Number : 1162
Data Quality   : E
-------------------------------------------------------------------------------------
Control Device : Controlled/Uncontrolled
Reference(s)   : 76
Data Source    : Engineering judgement.

SCC Assignments: 40717205, 40717206

-------------------------------------------------------------------------------------
Saroad      CAS Number      Name                               Spec_MW   Spec_WT   Peak
-------------------------------------------------------------------------------------
43510       123-72-8        BUTYRALDEHYDE                        72.12    100.00
-------------------------------------------------------------------------------------
TOTAL                                                                     100.00
=====================================================================================
VOC Profile Speciation Report
-------------------------------------------------------------------------------------
Profile Name   : N-DECANE
Profile Number : 1163
Data Quality   : E
-------------------------------------------------------------------------------------
Control Device : Controlled/Uncontrolled
Reference(s)   : 76
Data Source    : Engineering judgement.

SCC Assignments: 40701601, 40701602

-------------------------------------------------------------------------------------
Saroad      CAS Number      Name                             Spec_MW  Spec_WT  Peak
-------------------------------------------------------------------------------------
43238         124-18-5      N-DECANE                         142.28    100.00
-------------------------------------------------------------------------------------
TOTAL                                                                  100.00
=====================================================================================
VOC Profile Speciation Report
-------------------------------------------------------------------------------
Profile Name   : N-DODECANE
Profile Number : 1164
Data Quality   : E
-------------------------------------------------------------------------------
Control Device : Controlled/Uncontrolled
Reference(s)   : 76
Data Source    : Engineering judgement.

SCC Assignments: 40701603, 40701604

-------------------------------------------------------------------------------
Saroad      CAS Number      Name                            Spec_MW  Spec_WT  Peak
-------------------------------------------------------------------------------
43111                       ISOMERS OF DODECANE              170.32   100.00
-------------------------------------------------------------------------------
TOTAL                                                                 100.00
===============================================================================
VOC Profile Speciation Report
------------------------------------------------------------------------------------
Profile Name   : O-XYLENE
Profile Number : 1165
Data Quality   : E
------------------------------------------------------------------------------------
Control Device : Controlled/Uncontrolled
Reference(s)   : 76
Data Source    : Engineering judgement.

SCC Assignments: 40703619, 40703620

------------------------------------------------------------------------------------
Saroad       CAS Number       Name                             Spec_MW  Spec_WT  Peak
------------------------------------------------------------------------------------
45204          95-47-6        O-XYLENE                         106.16    100.00
------------------------------------------------------------------------------------
TOTAL                                                                    100.00
====================================================================================
VOC Profile Speciation Report
------------------------------------------------------------------------------------
Profile Name   : PENTADECANE
Profile Number : 1166
Data Quality   : E
------------------------------------------------------------------------------------
Control Device : Controlled/Uncontrolled
Reference(s)   : 76
Data Source    : Engineering judgement.

SCC Assignments: 40701609, 40701610

------------------------------------------------------------------------------------
Saroad      CAS Number       Name                             Spec_MW   Spec_WT   Peak
------------------------------------------------------------------------------------
43114                        ISOMERS OF PENTADECANE           212.41     100.00
------------------------------------------------------------------------------------
TOTAL                                                                    100.00
====================================================================================
VOC Profile Speciation Report
---------------------------------------------------------------------------------------
Profile Name   : PIPERYLENE
Profile Number : 1168
Data Quality   : E
---------------------------------------------------------------------------------------
Control Device : Controlled/Uncontrolled
Reference(s)   : 76
Data Source    : Engineering judgement.

SCC Assignments: 40782010

---------------------------------------------------------------------------------------
Saroad       CAS Number       Name                              Spec_MW   Spec_WT   Peak
---------------------------------------------------------------------------------------
45750          504-60-9       PIPERYLENE                          68.12    100.00
---------------------------------------------------------------------------------------
TOTAL                                                                      100.00
=======================================================================================
VOC Profile Speciation Report
-------------------------------------------------------------------------------
Profile Name   : PROPIONALDEHYDE
Profile Number : 1171
Data Quality   : E
-------------------------------------------------------------------------------
Control Device : Controlled/Uncontrolled
Reference(s)   : 76
Data Source    : Engineering judgement.

SCC Assignments: 40717211, 40717212

-------------------------------------------------------------------------------
Saroad      CAS Number      Name                          Spec_MW  Spec_WT  Peak
-------------------------------------------------------------------------------
43504         123-38-6      PROPIONALDEHYDE                 58.08   100.00
-------------------------------------------------------------------------------
TOTAL                                                               100.00
===============================================================================
VOC Profile Speciation Report
--------------------------------------------------------------------------------
Profile Name   : PROPIONIC ACID
Profile Number : 1172
Data Quality   : E
--------------------------------------------------------------------------------
Control Device : Controlled/Uncontrolled
Reference(s)   : 76
Data Source    : Engineering judgement.

SCC Assignments: 40704009, 40704010

--------------------------------------------------------------------------------
Saroad      CAS Number      Name                              Spec_MW   Spec_WT   Peak
--------------------------------------------------------------------------------
43405          79-09-4      PROPIONIC ACID                      74.08    100.00
--------------------------------------------------------------------------------
TOTAL                                                                  100.00
================================================================================
VOC Profile Speciation Report
--------------------------------------------------------------------------------
Profile Name   : PROPYLENE OXIDE
Profile Number : 1173
Data Quality   : E
--------------------------------------------------------------------------------
Control Device : Controlled/Uncontrolled
Reference(s)   : 76
Data Source    : Engineering judgement.

SCC Assignments: 40720803, 40720804

--------------------------------------------------------------------------------
Saroad      CAS Number      Name                           Spec_MW  Spec_WT   Peak
--------------------------------------------------------------------------------
43602          75-56-9      PROPYLENE OXIDE                 58.08    100.00
--------------------------------------------------------------------------------
TOTAL                                                                100.00
================================================================================
VOC Profile Speciation Report
--------------------------------------------------------------------------------
Profile Name   : P-XYLENE
Profile Number : 1174
Data Quality   : E
--------------------------------------------------------------------------------
Control Device : Controlled/Uncontrolled
Reference(s)   : 76
Data Source    : Engineering judgement.

SCC Assignments: 40703621, 40703622

--------------------------------------------------------------------------------
Saroad      CAS Number      Name                              Spec_MW  Spec_WT  Peak
--------------------------------------------------------------------------------
45206         106-42-3      P-XYLENE                          106.16    100.00
--------------------------------------------------------------------------------
TOTAL                                                                   100.00
================================================================================
VOC Profile Speciation Report
------------------------------------------------------------------------------
Profile Name   : TERT- BUTYL ALCOHOL
Profile Number : 1175
Data Quality   : E
------------------------------------------------------------------------------
Control Device : Controlled/Uncontrolled
Reference(s)   : 76
Data Source    : Engineering judgement.

SCC Assignments: 40700805, 40700806

------------------------------------------------------------------------------
Saroad      CAS Number      Name                             Spec_MW  Spec_WT  Peak
------------------------------------------------------------------------------
43309         75-65-0       TERT-BUTYL ALCOHOL                 74.12   100.00
------------------------------------------------------------------------------
TOTAL                                                                  100.00
==============================================================================
VOC Profile Speciation Report
------------------------------------------------------------------------------------
Profile Name   : TOLUENE DIISOCYANATE
Profile Number : 1176
Data Quality   : E
------------------------------------------------------------------------------------
Control Device : Controlled/Uncontrolled
Reference(s)   : 76
Data Source    : Engineering Judgement

SCC Assignments: 40706403, 40706404

------------------------------------------------------------------------------------
Saroad      CAS Number      Name                              Spec_MW   Spec_WT   Peak
------------------------------------------------------------------------------------
45731         58-84-9       TOLUENE DIISOCYANATE              174.17     100.00
------------------------------------------------------------------------------------
TOTAL                                                                    100.00
====================================================================================
```

VOC Profile Speciation Report

Profile Name : Isooctane
Profile Number : 1197
Data Quality : E

Control Device : Controlled/Uncontrolled
Reference(s) : 76
Data Source : Engineering judgement

SCC Assignments: 40300113

Saroad	CAS Number	Name	Spec_MW	Spec_WT	Peak
43250	540-84-1	2,2,4-TRIMETHYLPENTANE	114.22	100.00	
TOTAL				100.00	

```
VOC Profile Speciation Report
--------------------------------------------------------------------------------
Profile Name   : Pentane
Profile Number : 1198
Data Quality   : E
--------------------------------------------------------------------------------
Control Device : Controlled/Uncontrolled
Reference(s)   : 76
Data Source    : Engineering judgement.

SCC Assignments: 40300115

--------------------------------------------------------------------------------
Saroad      CAS Number      Name                              Spec_MW  Spec_WT   Peak
--------------------------------------------------------------------------------
43220       109-66-0        N-PENTANE                          72.15    100.00
--------------------------------------------------------------------------------
TOTAL                                                                   100.00
================================================================================
VOC Profile Speciation Report
--------------------------------------------------------------------------------
Profile Name   : Isopentane
Profile Number : 1199
Data Quality   : E
--------------------------------------------------------------------------------
Control Device : Controlled/Uncontrolled
Reference(s)   : 76
Data Source    : Engineering judgment

SCC Assignments: 40300114

--------------------------------------------------------------------------------
Saroad      CAS Number      Name                              Spec_MW  Spec_WT  Peak
--------------------------------------------------------------------------------
43221          78-78-4      ISO PENTANE                         72.15   100.00
--------------------------------------------------------------------------------
TOTAL                                                                   100.00
================================================================================
VOC Profile Speciation Report
---------------------------------------------------------------------------------
Profile Name   : Cyclopentane
Profile Number : 1200
Data Quality   : E
---------------------------------------------------------------------------------
Control Device : Controlled/Uncontrolled
Reference(s)   : 76
Data Source    : Engineering judgement

SCC Assignments: 40300210

---------------------------------------------------------------------------------
Saroad      CAS Number     Name                               Spec_MW  Spec_WT  Peak
---------------------------------------------------------------------------------
43242        287-92-3      CYCLOPENTANE                        70.14   100.00
---------------------------------------------------------------------------------
TOTAL                                                                  100.00
=================================================================================
```

3.23 RAILCAR, TANK TRUCK, AND DRUM CLEANING

Rail tank cars, tank trucks, and drums are used to transport about 700 different commodities. Rail tank cars and most tank trucks and drums are in dedicated service (carrying one commodity only) and, unless contaminated, are cleaned only prior to repair or testing. Cleaning agents include steam, water, detergents, and solvents which are applied using steam hoses, pressure wands, or rotatory spray heads. Vapors from cleaning which are not flared or dissolved in water are emitted to the atmosphere.

```
VOC Profile Speciation Report
--------------------------------------------------------------------------------
Profile Name   : Railcar Cleaning - Low Vapor Pressure, High Viscosity Cargo (Ethylene Glycol)
Profile Number : 1078
Data Quality   : D
--------------------------------------------------------------------------------
Control Device : Not reported
Reference(s)   : 55
Data Source    : Information based on measurement from one emission
                 source.

SCC Assignments: 49000301

--------------------------------------------------------------------------------
Saroad      CAS Number      Name                          Spec_MW   Spec_WT   Peak
--------------------------------------------------------------------------------
43370         107-21-1      ETHYLENE GLYCOL                 62.07    100.00
--------------------------------------------------------------------------------
TOTAL                                                                100.00
================================================================================
VOC Profile Speciation Report
--------------------------------------------------------------------------------
Profile Name   : Rail Car Cleaning - Low Vapor Pressure, Medium Viscosity Cargo (o-Dichlorobenzene)
Profile Number : 1079
Data Quality   : D
--------------------------------------------------------------------------------
Control Device : Not reported
Reference(s)   : 55
Data Source    : Information based on measurement from one emission
                 source.

SCC Assignments: 49000303

--------------------------------------------------------------------------------
Saroad      CAS Number      Name                            Spec_MW   Spec_WT   Peak
--------------------------------------------------------------------------------
45805          95-50-1      O-DICHLOROBENZENE               147.01     100.00
--------------------------------------------------------------------------------
TOTAL                                                                  100.00
================================================================================
VOC Profile Speciation Report
------------------------------------------------------------------------------------------
Profile Name   : Rail Car Cleaning - Low Vapor Pressure, High Viscosity Cargo (Creosote)
Profile Number : 1080
Data Quality   : D
------------------------------------------------------------------------------------------
Control Device : Not reported
Reference(s)   : 55
Data Source    : Information based on measurement from one emission
                 source.

SCC Assignments: 49000304

------------------------------------------------------------------------------------------
Saroad       CAS Number       Name                                Spec_MW    Spec_WT   Peak
------------------------------------------------------------------------------------------
46210         8001-58-9       CREOSOTE                            130.19     100.00
------------------------------------------------------------------------------------------
TOTAL                                                                        100.00
==========================================================================================
VOC Profile Speciation Report
-----------------------------------------------------------------------------------
Profile Name   : Tank Truck Cleaning - Medium Vapor Pressure, Medium Viscosity Cargo (Methyl Methacrylate)
Profile Number : 1081
Data Quality   : D
-----------------------------------------------------------------------------------
Control Device : Not reported
Reference(s)   : 55
Data Source    : Information based on measurement from one emission
                 source.

SCC Assignments: 49000403

-----------------------------------------------------------------------------------
Saroad      CAS Number      Name                              Spec_MW   Spec_WT   Peak
-----------------------------------------------------------------------------------
43441          80-62-6      METHYL METHACRYLATE                100.13    100.00
-----------------------------------------------------------------------------------
TOTAL                                                                    100.00
===================================================================================
VOC Profile Speciation Report
-----------------------------------------------------------------------------------
Profile Name   : Tank Truck Cleaning - Low Vapor Pressure, Low Viscosity Cargo (Phenol)
Profile Number : 1082
Data Quality   : D
-----------------------------------------------------------------------------------
Control Device : Not reported
Reference(s)   : 55
Data Source    : Information based on measurement from one emission
                 source.

SCC Assignments: 49000404

-----------------------------------------------------------------------------------
Saroad      CAS Number      Name                               Spec_MW   Spec_WT   Peak
-----------------------------------------------------------------------------------
45300        108-95-2       PHENOL                               94.11    100.00
-----------------------------------------------------------------------------------
TOTAL                                                                     100.00
===================================================================================
VOC Profile Speciation Report
------------------------------------------------------------------------------------
Profile Name   : Tank Truck Cleaning - Low Vapor Pressure, High Viscosity Cargo (Propylene Glycol)
Profile Number : 1083
Data Quality   : D
------------------------------------------------------------------------------------
Control Device : Not reported
Reference(s)   : 55
Data Source    : Information based on measurement from one emission
                 source.

SCC Assignments: 49000405

------------------------------------------------------------------------------------
Saroad       CAS Number       Name                               Spec_MW   Spec_WT   Peak
------------------------------------------------------------------------------------
43369          57-55-6        PROPYLENE GLYCOL                     76.11    100.00
------------------------------------------------------------------------------------
TOTAL                                                                       100.00
====================================================================================
```

3.24 SOLID WASTE DISPOSAL

Solid waste sources can be industrial, urban, agricultural, or construction. Solid waste may be disposed of in landfills or land application units or incinerated. A large percentage of urban and industrial waste is burned. Waste burning processes include open burning and controlled and uncontrolled incineration where significant particulate emissions may be generated.

VOC Profile Speciation Report

Profile Name : Open Burning Dump - Landscape/Pruning
Profile Number : 0121
Data Quality : C

Control Device : Uncontrolled
Reference(s) : 60
Data Source : Calculations from composite survey data and engineering evaluation of literature data.

SCC Assignments: 50100202

Saroad	CAS Number	Name	Spec_MW	Spec_WT	Peak
43121		ISOMERS OF PENTENE	70.13	11.80	
43203	74-85-1	ETHYLENE	28.05	19.40	
43204	74-98-6	PROPANE	44.09	1.90	
43206	74-86-2	ACETYLENE	26.04	1.90	
43212	106-97-8	N-BUTANE	58.12	1.90	
43213	106-98-9	BUTENE	56.10	5.90	
43214	75-28-5	ISO-BUTANE	58.12	1.90	
43220	109-66-0	N-PENTANE	72.15	1.90	
43224	109-67-1	1-PENTENE	70.13	11.80	
43231	110-54-3	HEXANE	86.17	13.90	
43232	142-82-5	HEPTANE	100.20	13.90	
43233	111-65-9	OCTANE	114.23	13.80	
TOTAL				100.00	

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```
VOC Profile Speciation Report
--------------------------------------------------------------------------------
Profile Name   : Bar Screen Waste Incinerator
Profile Number : 0122
Data Quality   : D
--------------------------------------------------------------------------------
Control Device : Uncontrolled
Reference(s)   : 59
Data Source    : Calculations from composite survey data and GC/MS
                 analysis of grab sample.

SCC Assignments: 50100101, 50100102

--------------------------------------------------------------------------------
Saroad       CAS Number       Name                             Spec_MW  Spec_WT   Peak
--------------------------------------------------------------------------------
43201           74-82-8       METHANE                            16.04    80.40
43202           74-84-0       ETHANE                             30.07     2.70
43203           74-85-1       ETHYLENE                           28.05     8.70
43205          115-07-1       PROPENE                            42.08     0.50
45201           71-43-2       BENZENE                            78.11     7.70
--------------------------------------------------------------------------------
TOTAL                                                                    100.00
================================================================================
```

VOC Profile Speciation Report

Profile Name : Solid Waste Landfill Site - Class II
Profile Number : 0202
Data Quality : C

Control Device : Uncontrolled
Reference(s) : 59
Data Source : Information based on composite survey data and GC/MS analysis of grab samples.

SCC Assignments: 50200602

Saroad	CAS Number	Name	Spec_MW	Spec_WT	Peak
43123		TERPENES	136.23	0.10	
43201	74-82-8	METHANE	16.04	98.70	
43202	74-84-0	ETHANE	30.07	0.10	
43204	74-98-6	PROPANE	44.09	0.10	
43212	106-97-8	N-BUTANE	58.12	0.20	
43214	75-28-5	ISO-BUTANE	58.12	0.10	
43220	109-66-0	N-PENTANE	72.15	0.10	
43242	287-92-3	CYCLOPENTANE	70.14	0.10	
43817	127-18-4	PERCHLOROETHYLENE	165.83	0.30	
45102	1330-20-7	ISOMERS OF XYLENE	106.16	0.10	
45202	108-88-3	TOLUENE	92.13	0.10	
TOTAL				100.00	

```
VOC Profile Speciation Report
------------------------------------------------------------------------------------
Profile Name   : Solid Waste - Animal Waste Decomposition
Profile Number : 0203
Data Quality   : C
------------------------------------------------------------------------------------
Control Device : Uncontrolled
Reference(s)   : 59, 67, 68, 69, 70
Data Source    : Information based on composite survey data and engi-
                 neering evaluation of literature data.

SCC Assignments:

------------------------------------------------------------------------------------
Saroad       CAS Number        Name                           Spec_MW   Spec_WT   Peak
------------------------------------------------------------------------------------
43201           74-82-8        METHANE                          16.04     70.00
43202           74-84-0        ETHANE                           30.07     20.00
43302           64-17-5        ETHYL ALCOHOL                    46.07      2.00
43304           67-63-0        ISO-PROPYL ALCOHOL               60.09      2.00
43434          109-60-4        N-PROPYL ACETATE                102.15      2.00
43551           67-64-1        ACETONE                          58.08      2.00
43721           75-05-7        ETHYLAMINE                       45.09      1.00
43740           75-50-3        TRIMETHYLAMINE                   59.11      1.00
------------------------------------------------------------------------------------
TOTAL                                                                    100.00
====================================================================================
```

3.25 WOOD COMBUSTION

Wood is burned in industrial/commercial boilers to obtain heat energy and to alleviate waste disposal problems in the pulp and paper industries. Residential wood burning is commonly used to supplement conventional heating systems. In the industrial sector, the burning of wood waste in boilers is mostly confined to those industries where wood is available as a by-product. A variety of boiler configurations is used for burning wood waste. These include dutch oven configurations, spreader stokers, and tangentially-fired or cyclone-fired boilers. Residential wood stoves are usually radiating or circulatory designs constructed from cast iron, heavy gauge sheet metal, or stainless steel. Emissions from wood combustion are affected by furnace design and operating conditions, and fuel characteristics such as fuel composition, moisture content, and effective burning surface area.

```
VOC Profile Speciation Report
--------------------------------------------------------------------------------
Profile Name   : Residential Wood Combustion (C-1 - C-6)
Profile Number : 1084
Data Quality   : D
--------------------------------------------------------------------------------
Control Device : Catalyst
Reference(s)   : 15
Data Source    : Five samples were taken into a preevacuated 3-liter
                 glass bulb.  Four test runs were with a catalyst in
                 use, one when it was not.  Samples were analyzed using
                 a combination of mass spectrometry and trace gas
                 chromatographic techniques.  (See also profile 1167).

SCC Assignments:

--------------------------------------------------------------------------------
Saroad       CAS Number        Name                          Spec_MW   Spec_WT   Peak
--------------------------------------------------------------------------------
43201           74-82-8        METHANE                         16.04     38.39
43202           74-84-0        ETHANE                          30.07      5.21
43203           74-85-1        ETHYLENE                        28.05     16.38
43204           74-98-6        PROPANE                         44.09      1.37
43205          115-07-1        PROPENE                         42.08      2.00
43213          106-98-9        BUTENE                          56.10      0.49
43214           75-28-5        ISO-BUTANE                      58.12      0.09
43302           64-17-5        ETHYL ALCOHOL                   46.07     16.47
45201           71-43-2        BENZENE                         78.11     18.91
99999                          UNIDENTIFIED                    86.00      0.68
--------------------------------------------------------------------------------
TOTAL                                                                  99.99
================================================================================
```

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VOC Profile Speciation Report

Profile Name : Residential Wood Combustion
Profile Number : 1167
Data Quality : C

Control Device : Uncontrolled/Catalyst
Reference(s) : 77, 78, 79, 80, 81
Data Source : Composite profile developed from literature data from 66 tests. Tests weighted by burn rate and catalyst/non-catalyst tests equally weighted. Profile based on all species identified. (See also Profile 1084).

Saroad	CAS Number	Name	Spec_MW	Spec_WT	Peak
43319	71-41-0	PENTANOL	88.15	0.25	
43502	50-00-0	FORMALDEHYDE	30.03	0.66	
43503	75-07-0	ACETALDEHYDE	44.05	0.24	
43504	123-38-6	PROPIONALDEHYDE	58.08	0.18	
43510	123-72-8	BUTYRALDEHYDE	72.12	2.08	
43511	78-84-2	ISOBUTYRALDEHYDE	72.11	1.70	
45300	108-95-2	PHENOL	94.11	6.84	
46701	91-12-3	NAPTHALENE	128.17	43.65	(1)
46702		METHYL NAPHTHALENES	142.20	0.00	(1)
46704		PHENYLNAPHTHALENES	204.27	0.00	(1)
46705	208-96-8	ACENAPHTHYLENE	152.20	7.19	
46706	83-32-9	ACENAPHTHENE	154.21	1.22	
46707	86-73-7	FLUORENE	166.22	2.59	
46708	85-01-8	PHENANTHRENE	178.23	16.84	(2)
46709	120-12-7	ANTHRACENE	178.23	0.00	(2)
46710	206-44-0	FLUORANTHENE	202.26	3.63	
46713	129-00-0	PYRENE	202.26	3.35	
46714		BENZO(g,h,i) FLUORANTHENE	252.32	1.30	
46715	218-01-9	CHRYSENE	228.29	2.39	(3)
46716	56-55-3	BENZO (a) ANTHRACENE	228.30	0.00	(3)
46717	205-99-2	BENZO (b) FLUORANTHENE	252.32	1.14	(4)
46718	207-08-9	BENZO (k) FLUORANTHENE	252.32	0.00	(4)
46719	50-32-8	BENZO (a) PYRENE	252.32	0.90	
46720	193-39-5	INDENO(1,2,3-cd) PYRENE	276.34	0.66	(5)
46721	191-24-2	BENZO (g,h,i) PERYLENE	276.34	0.00	(5)
46722	53-70-3	DIBENZO(a,h) ANTHRACENE	278.35	0.04	
46723	198-55-0	PERYLENE	252.32	0.06	
46724	192-97-2	BENZO (e) PYRENE	252.32	0.09	
46725	191-26-4	ANTHANTHRENE	276.34	0.08	
46726	191-07-1	CORONENE	300.36	0.03	
46727		METHYL-ANTHRACENES	192.26	0.93	(6)
46728		METHYL-PHENANTHRENES	192.26	0.00	(6)
46729		C2-ALKYL-ANTHRACENES	158.24	0.17	(7)
46730		C2-ALKYL-PHENANTHRENES	206.28	0.00	(7)
46731		CYCLOPENTA-ANTHRACENES	247.36	0.14	(8)
46732		CYCLOPENTA-PHENANTHRENES	190.25	0.00	(8)
46733		METHYL-FLUORANTHENES	216.29	0.40	
46734	27208-37-3	CYCLOPENTA(c,d)PYRENE	226.28	0.22	
46735	195-19-7	BENZO(c)PHENANTHRENE	228.30	0.07	
46736		METHYL-BENZANTHRACENES	242.33	0.21	(9)
46737		METHYL-BENZPHENANTHRENES	242.33	0.00	(9)

```
VOC Profile Speciation Report  -  continued (profile 1167)
------------------------------------------------------------------------------------
Saroad      CAS Number     Name                              Spec_MW   Spec_WT   Peak
------------------------------------------------------------------------------------
46738                      METHYL-CHRYSENES                  242.33      0.00   (9 )
46739                      C2-ALKYL-BENZANTHRACENES          256.35      0.41   (10)
46740                      C2-ALKYL-BENZOPHENANTHRENES       230.31      0.00   (10)
46741                      C2-ALKYL-CHRYSENES                256.34      0.00   (10)
46742                      BENZOPYRENES                      252.32      0.29
46743                      DIBENZANTHRACENES                 278.35      0.03   (11)
46744                      DIBENZPHENANTHRENES               278.36      0.00   (11)
46745                      DIBENZOPYRENES                    302.38      0.02
------------------------------------------------------------------------------------
TOTAL                                                                  100.00
====================================================================================
```

3.26 MOBILE SOURCES

Because of their widespread use, the internal combustion gasoline powered engine in mobile applications is a major source of VOC emissions. Gasoline fueled light-duty vehicles account for about 75 percent of VOC emissions from mobile sources (1983). Automotive VOC emissions consist of exhaust emissions that occur from the tailpipe, evaporative emissions that occur from (1) the gas tank as the temperature rises during the day, (2) the carburetor after the engine has been shut off (hot soak emissions), and (3) emissions from vehicle refueling. This section also contains data on diesel vehicles. Profile data for refueling are included in Section 3.20.

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VOC Profile Speciation Report

Profile Name : Light Duty Gasoline Vehicles
Profile Number : 1101
Data Quality : B

Control Device : Catalyst
Reference(s) : 56
Data Source : Composition data collected using GC/FID and DNPH methods for exhaust and evaporative (hot soak) emissions from 45 cars were composited. Based on AP-42 (4th. edition), data were weighted according to travel fractions. (See Appendix A for details).

SCC Assignments:

Saroad	CAS Number	Name	Spec_MW	Spec_WT	Peak
43135		C10 PARAFFINS	142.28	0.16	
43136		C9 PARAFFIN	128.25	0.00	(20)
43201	74-82-8	METHANE	16.04	10.07	
43202	74-84-0	ETHANE	30.07	1.41	
43203	74-85-1	ETHYLENE	28.05	3.92	
43204	74-98-6	PROPANE	44.09	0.56	(1)
43205	115-07-1	PROPENE	42.08	1.06	(1)
43206	74-86-2	ACETYLENE	26.04	0.75	
43208	463-49-0	PROPADIENE	40.06	0.08	
43209	74-99-7	METHYLACETYLENE (PROPYNE)	40.06	0.06	
43211	760-20-3	3-METHYL-1-PENTENE	84.16	0.00	(7)
43212	106-97-8	N-BUTANE	58.12	9.48	(3)
43213	106-98-9	BUTENE	56.10	0.85	(2)
43214	75-28-5	ISO-BUTANE	58.12	1.70	
43215	115-11-7	ISOBUTYLENE	56.10	0.00	(2)
43216	624-64-6	T-2-BUTENE	56.11	0.55	(4)
43217	590-18-1	CIS-2-BUTENE	56.11	0.50	(5)
43218	106-99-0	1,3-BUTADIENE	54.09	1.68	(3)
43220	109-66-0	N-PENTANE	72.15	2.88	
43221	78-78-4	ISO PENTANE	72.15	6.54	
43223	563-45-1	3-METHYL-1-BUTENE	70.13	0.15	
43224	109-67-1	1-PENTENE	70.13	0.32	(6)
43226	646-04-8	TRANS-2-PENTENE	70.13	0.68	
43227	627-20-3	CIS-2-PENTENE	70.13	0.38	
43228	513-35-9	2-METHYL-2-BUTENE	70.13	0.98	
43229	107-83-5	2-METHYLPENTANE	86.17	1.76	(8)
43230	96-14-0	3-METHYL PENTANE	86.17	1.09	
43231	110-54-3	HEXANE	86.17	0.87	(10)
43232	142-82-5	HEPTANE	100.20	0.65	
43233	111-65-9	OCTANE	114.23	0.31	
43234	563-78-0	2,3 DIMETHYL-1-BUTENE	84.16	0.00	(8)
43235	111-84-2	NONANE	128.25	0.19	
43238	124-18-5	N-DECANE	142.28	0.16	
43241	1120-21-4	N-UNDECANE	156.31	0.53	
43242	287-92-3	CYCLOPENTANE	70.14	0.35	(7)
43243	78-79-5	ISOPRENE	68.12	0.07	
43245	592-41-6	1-HEXENE	84.16	0.31	(9)
43247	108-08-7	2,4-DIMETHYLPENTANE	100.20	0.58	

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VOC Profile Speciation Report - continued (profile 1101)

Saroad	CAS Number	Name	Spec_MW	Spec_WT	Peak
43248	110-82-7	CYCLOHEXANE	84.16	1.40	(12)
43250	540-84-1	2,2,4-TRIMETHYLPENTANE	114.22	1.97	
43252	565-75-3	2,3,4-TRIMETHYLPENTANE	114.22	0.12	
43261	108-87-2	METHYLCYCLOHEXANE	98.21	0.50	
43262	96-37-7	METHYLCYCLOPENTANE	84.16	0.78	(11)
43263	591-76-4	2-METHYL HEXANE	100.20	0.00	(13)
43270	922-61-2	3-METHYL-T-2-PENTENE	84.16	0.00	(11)
43272	693-89-0	METHYLCYCLOPENTENE	82.14	0.01	
43273	110-83-8	CYCLOHEXENE	82.14	0.00	(13)
43274	565-59-3	2,3 DIMETHYL PENTANE	100.20	1.40	(13)
43276	79-29-8	2,3 DIMETHYLBUTANE	86.17	0.69	
43277		2,4-DIMETHYLHEXANE	114.22	0.63	(14)
43278	592-13-2	2,5-DIMETHYLHEXANE	114.22	0.00	(14)
43279	760-21-4	2-ETHYL-1-BUTENE	84.16	0.00	(9)
43280		2,3,3 TRIMETHYLPENTANE	114.22	1.09	
43281	107-00-6	1-BUTYNE	54.09	0.00	(5)
43282	503-17-3	2-BUTYNE	54.09	0.00	(6)
43283		C-3-HEXENE	84.16	0.00	(10)
43284	625-27-4	2-METHYL-2-PENTENE	84.16	0.42	
43285		2-HEXENE	84.16	0.16	
43286		DIMETHYLHEXENE	112.20	0.12	
43287	590-73-8	2,2 DIMETHYLHEXANE	114.22	0.05	
43290		2,3 DIMETHYLHEXANE	114.22	0.00	(15)
43291	75-83-2	2,2-DIMETHYLBUTANE	86.17	0.21	(4)
43292	142-29-0	CYCLOPENTENE	68.11	0.37	
43295	589-34-4	3-METHYLHEXANE	100.20	1.06	
43296	592-27-8	2-METHYLHEPTANE	114.23	0.19	(16)
43297	589-53-7	4-METHYLHEPTANE	114.23	0.45	
43298		3-METHYLHEPTANE	114.23	0.36	
43299		1-METHYLCYCLOHEXENE	96.17	0.00	(16)
43502	50-00-0	FORMALDEHYDE	30.03	0.74	
43503	75-07-0	ACETALDEHYDE	44.05	0.28	
43504	123-38-6	PROPIONALDEHYDE	58.08	0.02	
43505	107-02-8	ACROLEIN	56.07	0.06	
43515	123-73-9	CROTONALDEHYDE	70.09	0.02	
45110		C10 AROMATIC	134.22	2.02	
45201	71-43-2	BENZENE	78.11	1.39	(12)
45202	108-88-3	TOLUENE	92.13	5.14	(15)
45203	100-41-4	ETHYLBENZENE	106.16	0.77	(18)
45204	95-47-6	O-XYLENE	106.16	1.56	(20)
45205	108-38-3	M-XYLENE	106.16	0.00	(19)
45206	106-42-3	P-XYLENE	106.16	2.56	(19)
45207	108-67-8	1,3,5-TRIMETHYLBENZENE	120.19	1.87	
45208	95-63-6	1,2,4-TRIMETHYLBENZENE	120.19	2.30	
45209	103-65-1	N-PROPYLBENZENE	120.19	0.48	
45216	135-98-8	S-BUTYLBENZENE	134.21	0.11	
45217	135-01-3	1,2 DIETHYLBENZENE	134.22	0.59	
45218	141-93-5	M-DIETHYLBENZENE	134.22	0.59	
45225	526-73-8	1,2,3-TRIMETHYLBENZENE	120.19	0.66	
45501	100-52-7	BENZALDEHYDE	106.13	0.08	
90002		2,3,5-TRIMETHYLHEXANE	128.25	0.09	
90003		2,4 DIMETHYLHEPTANE	128.26	0.11	

VOC Profile Speciation Report - continued (profile 1101)

Saroad	CAS Number	Name	Spec_MW	Spec_WT	Peak
90004		3,5 DIMETHYLHEPTANE	128.26	0.00	(17)
90005		2,5 DIMETHYLHEPTANE	128.26	0.73	(17)
90006		2,3 DIMETHYLHEPTANE	128.26	0.00	(18)
90007	691-37-2	4-METHYL-1-PENTENE	84.16	0.00	(7)
90008		2-METHYLOCTANE	128.26	0.01	
90009		2,4,5-TRIMETHYLHEPTANE	142.29	0.26	
90042	13269-52-8	T-3-HEXENE	84.16	0.29	
98033		2,2,5-TRIMETHYLHEXANE	128.26	0.46	
98044	496-11-7	INDANE	118.18	0.52	
99910		2,4 DIMETHYLOCTANE	142.29	0.07	
99911		3,4 DIMETHYLOCTANE	142.29	0.74	
99912		1-METHYL-3-ETHYLBENZENE	120.19	1.06	
99913		1-METHYL-2-ETHYLBENZENE	120.19	0.21	
99915	538-93-2	ISOBUTYLBENZENE	134.22	0.55	
99916		1-METHYL-3N-PROPYLBENZENE	134.22	0.17	
99917		1-METHYL-3-ISOPROPYLBENZENE	134.22	0.38	
99918		2-METHYLDECANE	156.32	1.08	
99999		UNIDENTIFIED	86.00	8.46	
TOTAL				100.04	

VOC Profile Speciation Report

Profile Name : Heavy Duty Gasoline Trucks
Profile Number : 1186
Data Quality : C

Control Device : Uncontrolled
Reference(s) : 85,86,87
Data Source : Exhaust emission data from four trucks combined with diurnal and hotsoak emission data from passenger cars using leaded gasoline.

SCC Assignments:

Saroad	CAS Number	Name	Spec_MW	Spec_WT	Peak
43135		C10 PARAFFINS	142.28	0.00	(19)
43136		C9 PARAFFIN	128.25	0.00	(18)
43201	74-82-8	METHANE	16.04	2.45	
43202	74-84-0	ETHANE	30.07	0.69	
43203	74-85-1	ETHYLENE	28.05	4.35	
43204	74-98-6	PROPANE	44.09	0.00	(1)
43205	115-07-1	PROPENE	42.08	1.57	(1)
43206	74-86-2	ACETYLENE	26.04	2.66	
43208	463-49-0	PROPADIENE	40.06	0.11	
43209	74-99-7	METHYLACETYLENE (PROPYNE)	40.06	0.24	
43211	760-20-3	3-METHYL-1-PENTENE	84.16	0.00	(5)
43212	106-97-8	N-BUTANE	58.12	22.42	(3)
43213	106-98-9	BUTENE	56.10	1.11	(2)
43214	75-28-5	ISO-BUTANE	58.12	3.43	
43215	115-11-7	ISOBUTYLENE	56.10	0.00	(2)
43216	624-64-6	T-2-BUTENE	56.11	0.89	
43217	590-18-1	CIS-2-BUTENE	56.11	0.67	
43218	106-99-0	1,3-BUTADIENE	54.09	0.00	(3)
43220	109-66-0	N-PENTANE	72.15	4.86	(4)
43221	78-78-4	ISO PENTANE	72.15	11.04	
43223	563-45-1	3-METHYL-1-BUTENE	70.13	0.14	
43224	109-67-1	1-PENTENE	70.13	0.41	
43225	563-46-2	2-METHYL-1-BUTENE	70.13	0.00	(4)
43226	646-04-8	TRANS-2-PENTENE	70.13	0.82	
43227	627-20-3	CIS-2-PENTENE	70.13	0.97	
43228	513-35-9	2-METHYL-2-BUTENE	70.13	0.11	
43229	107-83-5	2-METHYLPENTANE	86.17	2.81	(6)
43230	96-14-0	3-METHYL PENTANE	86.17	1.54	
43231	110-54-3	HEXANE	86.17	1.53	(8)
43232	142-82-5	HEPTANE	100.20	0.73	
43233	111-65-9	OCTANE	114.23	0.24	
43234	563-78-0	2,3 DIMETHYL-1-BUTENE	84.16	0.00	(6)
43235	111-84-2	NONANE	128.25	0.11	
43238	124-18-5	N-DECANE	142.28	0.11	
43241	1120-21-4	N-UNDECANE	156.31	0.14	
43242	287-92-3	CYCLOPENTANE	70.14	0.48	(5)
43243	78-79-5	ISOPRENE	68.12	0.10	
43245	592-41-6	1-HEXENE	84.16	0.28	(7)
43247	108-08-7	2,4-DIMETHYLPENTANE	100.20	0.64	
43248	110-82-7	CYCLOHEXANE	84.16	0.00	(10)

VOC Profile Speciation Report - continued (profile 1186)

Saroad	CAS Number	Name	Spec_MW	Spec_WT	Peak
43250	540-84-1	2,2,4-TRIMETHYLPENTANE	114.22	1.50	
43252	565-75-3	2,3,4-TRIMETHYLPENTANE	114.22	0.26	
43261	108-87-2	METHYLCYCLOHEXANE	98.21	0.26	
43262	96-37-7	METHYLCYCLOPENTANE	84.16	1.11	(9)
43263	591-76-4	2-METHYL HEXANE	100.20	0.00	(11)
43270	922-61-2	3-METHYL-T-2-PENTENE	84.16	0.00	(9)
43272	693-89-0	METHYLCYCLOPENTENE	82.14	0.03	
43273	110-83-8	CYCLOHEXENE	82.14	1.58	(11)
43274	565-59-3	2,3 DIMETHYL PENTANE	100.20	0.00	(11)
43276	79-29-8	2,3 DIMETHYLBUTANE	86.17	0.98	
43277		2,4-DIMETHYLHEXANE	114.22	0.42	(13)
43278	592-13-2	2,5-DIMETHYLHEXANE	114.22	0.00	(13)
43279	760-21-4	2-ETHYL-1-BUTENE	84.16	0.00	(7)
43280		2,3,3 TRIMETHYLPENTANE	114.22	0.42	
43283		C-3-HEXENE	84.16	0.00	(8)
43284	625-27-4	2-METHYL-2-PENTENE	84.16	0.34	
43290		2,3 DIMETHYLHEXANE	114.22	0.00	(14)
43291	75-83-2	2,2-DIMETHYLBUTANE	86.17	0.22	
43292	142-29-0	CYCLOPENTENE	68.11	0.29	
43295	589-34-4	3-METHYLHEXANE	100.20	0.00	(12)
43296	592-27-8	2-METHYLHEPTANE	114.23	0.26	
43297	589-53-7	4-METHYLHEPTANE	114.23	0.25	
43298		3-METHYLHEPTANE	114.23	0.35	
45201	71-43-2	BENZENE	78.11	1.75	(10)
45202	108-88-3	TOLUENE	92.13	2.98	(14)
45203	100-41-4	ETHYLBENZENE	106.16	0.67	(16)
45204	95-47-6	O-XYLENE	106.16	0.91	(18)
45205	108-38-3	M-XYLENE	106.16	1.86	(17)
45206	106-42-3	P-XYLENE	106.16	0.00	(17)
45207	108-67-8	1,3,5-TRIMETHYLBENZENE	120.19	1.21	
45208	95-63-6	1,2,4-TRIMETHYLBENZENE	120.19	1.44	
45209	103-65-1	N-PROPYLBENZENE	120.19	0.31	
45216	135-98-8	S-BUTYLBENZENE	134.21	0.05	
45217	135-01-3	1,2 DIETHYLBENZENE	134.22	0.30	
45218	141-93-5	M-DIETHYLBENZENE	134.22	0.23	
45225	526-73-8	1,2,3-TRIMETHYLBENZENE	120.19	0.26	
45235	104-51-8	BUTYL BENZENE	134.21	0.21	
45241	768-56-9	4-PHENYL-1-BUTENE	132.20	0.26	
45242		T-1-PHENYLBUTENE	132.20	0.23	
90002		2,3,5-TRIMETHYLHEXANE	128.25	0.08	
90003		2,4 DIMETHYLHEPTANE	128.26	0.08	
90004		3,5 DIMETHYLHEPTANE	128.26	0.00	(15)
90005		2,5 DIMETHYLHEPTANE	128.26	0.13	(15)
90006		2,3 DIMETHYLHEPTANE	128.26	0.00	(16)
90008		2-METHYLOCTANE	128.26	0.04	
90015		3-METHYLOCTANE	128.26	0.31	
90016		4-METHYLOCTANE	128.26	0.39	
90017		METHYLCYCLOOCTANE	127.25	0.33	
90032	821-95-4	1-UNDECENE	154.30	0.14	
90033		CYCLOPENTYLCYCLOPENTANE	138.25	0.46	
90034	6434-78-2	T-2-NONENE	126.24	0.17	
90036		PENTYNE	68.12	0.19	

VOC Profile Speciation Report - continued (profile 1186)

Saroad	CAS Number	Name	Spec_MW	Spec_WT	Peak
90037		HEXYNE	82.15	0.02	
90038	624-29-3	CIS-1,4 DIMETHYLCYCLOHEXANE	112.22	0.08	
98033		2,2,5-TRIMETHYLHEXANE	128.26	0.24	
98035	592-43-8	C-2-HEXENE	84.16	0.11	
98044	496-11-7	INDANE	118.18	0.32	
98054	107-39-1	2,4,4-TRIMETHYL-1-PENTENE	112.22	1.73	(12)
99908		2,3 DIMETHYLOCTANE	142.28	0.52	
99909		2,6 DIMETHYLOCTANE	167.31	0.07	
99912		1-METHYL-3-ETHYLBENZENE	120.19	0.16	(19)
99913		1-METHYL-2-ETHYLBENZENE	120.19	0.00	
99916		1-METHYL-3N-PROPYLBENZENE	134.22	0.16	
99918		2-METHYLDECANE	156.32	0.63	
99999		UNIDENTIFIED	86.00	5.07	
TOTAL				100.02	

VOC Profile Speciation Report

Profile Name : Light-Duty Diesel Vehicles
Profile Number : 1201
Data Quality : C

Control Device : Uncontrolled
Reference(s) : 83, 84, 94
Data Source : Species data by carbon number from three cars combined with aldehydes data from two cars. C1 to C43 organics analyzed using a combination of FID and solvent extraction. Aldehydes measured by 2, 4-DNP method. Mol. Wts. of C1 to C7 based on species distribution data (1 car); C8 to C43 based on hydrogen to carbon ratio of 2.

SCC Assignments: 111

Saroad	CAS Number	Name	Spec_MW	Spec_WT	Peak
43502	50-00-0	FORMALDEHYDE	30.03	8.61	
43503	75-07-0	ACETALDEHYDE	44.05	2.91	
43504	123-38-6	PROPIONALDEHYDE	58.08	1.77	(1)
43505	107-02-8	ACROLEIN	56.07	0.00	(1)
43512	66-25-1	HEXANAL	100.16	0.08	
43515	123-73-9	CROTONALDEHYDE	70.09	1.01	
45501	100-52-7	BENZALDEHYDE	106.13	0.55	
99101		C-1 COMPOUNDS	16.04	5.80	
99102		C-2 COMPOUNDS	28.55	19.94	
99103		C-3 COMPOUNDS	42.08	5.21	
99104		C-4 COMPOUNDS	57.08	4.08	
99105		C-5 COMPOUNDS	71.00	2.36	
99106		C-6 COMPOUNDS	79.12	4.30	
99107		C-7 COMPOUNDS	93.18	2.89	
99108		C-8 COMPOUNDS	112.00	1.13	
99109		C-9 COMPOUNDS	126.00	0.75	
99110		C-10 COMPOUNDS	140.00	3.52	
99111		C-11 COMPOUNDS	154.00	3.58	
99112		C-12 COMPOUNDS	168.00	2.20	
99113		C-13 COMPOUNDS	182.00	3.43	
99114		C-14 COMPOUNDS	196.00	4.45	
99115		C-15 COMPOUNDS	210.00	4.35	
99116		C-16 COMPOUNDS	224.00	3.49	
99117		C-17 COMPOUNDS	238.00	3.06	
99118		C-18 COMPOUNDS	252.00	2.04	
99119		C-19 COMPOUNDS	266.00	1.56	
99120		C-20 COMPOUNDS	280.00	0.91	
99121		C-21 COMPOUNDS	294.00	0.75	
99122		C-22 COMPOUNDS	308.00	0.59	
99123		C-23 COMPOUNDS	322.00	0.48	
99124		C-24 COMPOUNDS	336.00	0.48	
99125		C-25 COMPOUNDS	350.00	0.54	
99126		C-26 COMPOUNDS	364.00	0.44	
99127		C-27 COMPOUNDS	378.00	0.22	
99128		C-28 COMPOUNDS	392.00	0.32	
99129		C-29 COMPOUNDS	406.00	0.14	
99130		C-30 COMPOUNDS	420.00	0.32	

VOC Profile Speciation Report - continued (profile 1201)

Saroad	CAS Number	Name	Spec_MW	Spec_WT	Peak
99131		C-31 COMPOUNDS	434.00	0.29	
99132		C-32 COMPOUNDS	448.00	0.27	
99133		C-33 COMPOUNDS	462.00	0.22	
99134		C-34 COMPOUNDS	476.00	0.24	
99135		C-35 COMPOUNDS	490.00	0.16	
99136		C-36 COMPOUNDS	504.00	0.20	
99137		C-37 COMPOUNDS	518.00	0.08	
99138		C-38 COMPOUNDS	532.00	0.05	
99139		C-39 COMPOUNDS	546.00	0.11	
99140		C-40 COMPOUNDS	560.00	0.02	
99141		C-41 COMPOUNDS	574.00	0.05	
99142		C-42 COMPOUNDS	588.00	0.02	
99143		C-43 COMPOUNDS	602.00	0.01	
TOTAL				99.98	

VOC Profile Speciation Report

Profile Name : Light-Duty Gasoline Vehicles - Exhaust
Profile Number : 1203
Data Quality : B

Control Device : Catalyst
Reference(s) : 56, 86
Data Source : Composition data collected using GC/FID and DNPH methods for exhaust emissions (see Appendix A for details; see also Profile 1101).

Saroad	CAS Number	Name	Spec_MW	Spec_WT	Peak
43135		C10 PARAFFINS	142.28	0.19	
43136		C9 PARAFFIN	128.25	0.00	(20)
43201	74-82-8	METHANE	16.04	10.97	
43202	74-84-0	ETHANE	30.07	1.79	
43203	74-85-1	ETHYLENE	28.05	8.41	
43204	74-98-6	PROPANE	44.09	0.00	(1)
43205	115-07-1	PROPENE	42.08	2.88	(1)
43206	74-86-2	ACETYLENE	26.04	2.25	
43208	463-49-0	PROPADIENE	40.06	0.13	
43209	74-99-7	METHYLACETYLENE (PROPYNE)	40.06	0.17	
43211	760-20-3	3-METHYL-1-PENTENE	84.16	0.00	(7)
43212	106-97-8	N-BUTANE	58.12	3.81	(3)
43213	106-98-9	BUTENE	56.10	0.00	(2)
43214	75-28-5	ISO-BUTANE	58.12	0.62	
43215	115-11-7	ISOBUTYLENE	56.10	1.41	(2)
43216	624-64-6	T-2-BUTENE	56.11	0.00	(4)
43217	590-18-1	CIS-2-BUTENE	56.11	0.46	(5)
43218	106-99-0	1,3-BUTADIENE	54.09	0.67	(3)
43220	109-66-0	N-PENTANE	72.15	1.60	
43221	78-78-4	ISO PENTANE	72.15	3.51	
43223	563-45-1	3-METHYL-1-BUTENE	70.13	0.18	
43224	109-67-1	1-PENTENE	70.13	0.19	(6)
43226	646-04-8	TRANS-2-PENTENE	70.13	0.34	
43227	627-20-3	CIS-2-PENTENE	70.13	0.20	
43228	513-35-9	2-METHYL-2-BUTENE	70.13	0.51	
43229	107-83-5	2-METHYLPENTANE	86.17	1.27	(8)
43230	96-14-0	3-METHYL PENTANE	86.17	0.86	
43231	110-54-3	HEXANE	86.17	0.67	(10)
43232	142-82-5	HEPTANE	100.20	0.53	
43233	111-65-9	OCTANE	114.23	0.30	
43234	563-78-0	2,3 DIMETHYL-1-BUTENE	84.16	0.00	(8)
43235	111-84-2	NONANE	128.25	0.25	
43238	124-18-5	N-DECANE	142.28	0.20	
43241	1120-21-4	N-UNDECANE	156.31	0.60	
43242	287-92-3	CYCLOPENTANE	70.14	0.00	(7)
43243	78-79-5	ISOPRENE	68.12	0.17	
43245	592-41-6	1-HEXENE	84.16	0.22	(9)
43247	108-08-7	2,4-DIMETHYLPENTANE	100.20	0.53	
43248	110-82-7	CYCLOHEXANE	84.16	1.62	(12)
43250	540-84-1	2,2,4-TRIMETHYLPENTANE	114.22	1.95	
43252	565-75-3	2,3,4-TRIMETHYLPENTANE	114.22	0.11	
43261	108-87-2	METHYLCYCLOHEXANE	98.21	0.47	

VOC Profile Speciation Report - continued (profile 1203)

Saroad	CAS Number	Name	Spec_MW	Spec_WT	Peak
43262	96-37-7	METHYLCYCLOPENTANE	84.16	0.61	(11)
43263	591-76-4	2-METHYL HEXANE	100.20	0.00	(13)
43270	922-61-2	3-METHYL-T-2-PENTENE	84.16	0.00	(11)
43272	693-89-0	METHYLCYCLOPENTENE	82.14	0.02	
43273	110-83-8	CYCLOHEXENE	82.14	0.00	(13)
43274	565-59-3	2,3 DIMETHYL PENTANE	100.20	1.25	(13)
43276	79-29-8	2,3 DIMETHYLBUTANE	86.17	0.53	
43277		2,4-DIMETHYLHEXANE	114.22	0.00	(14)
43278	592-13-2	2,5-DIMETHYLHEXANE	114.22	0.63	(14)
43279	760-21-4	2-ETHYL-1-BUTENE	84.16	0.00	(9)
43280		2,3,3 TRIMETHYLPENTANE	114.22	1.10	
43281	107-00-6	1-BUTYNE	54.09	0.00	(5)
43282	503-17-3	2-BUTYNE	54.09	0.00	(6)
43283		C-3-HEXENE	84.16	0.00	(10)
43284	625-27-4	2-METHYL-2-PENTENE	84.16	0.23	
43285		2-HEXENE	84.16	0.08	
43286		DIMETHYLHEXENE	112.20	0.13	
43287	590-73-8	2,2 DIMETHYLHEXANE	114.22	0.07	
43290		2,3 DIMETHYLHEXANE	114.22	0.00	(15)
43291	75-83-2	2,2-DIMETHYLBUTANE	86.17	0.71	(4)
43292	142-29-0	CYCLOPENTENE	68.11	0.27	
43295	589-34-4	3-METHYLHEXANE	100.20	0.92	
43296	592-27-8	2-METHYLHEPTANE	114.23	0.22	(16)
43297	589-53-7	4-METHYLHEPTANE	114.23	0.52	
43298		3-METHYLHEPTANE	114.23	0.36	
43299		1-METHYLCYCLOHEXENE	96.17	0.00	(16)
43502	50-00-0	FORMALDEHYDE	30.03	1.42	
43503	75-07-0	ACETALDEHYDE	44.05	0.49	
43504	123-38-6	PROPIONALDEHYDE	58.08	0.05	
43505	107-02-8	ACROLEIN	56.07	0.15	
43515	123-73-9	CROTONALDEHYDE	70.09	0.07	
45110		C10 AROMATIC	134.22	2.65	
45201	71-43-2	BENZENE	78.11	1.62	(12)
45202	108-88-3	TOLUENE	92.13	5.72	(15)
45203	100-41-4	ETHYLBENZENE	106.16	0.88	(18)
45204	95-47-6	O-XYLENE	106.16	1.76	(20)
45205	108-38-3	M-XYLENE	106.16	0.00	(19)
45206	106-42-3	P-XYLENE	106.16	2.87	(19)
45207	108-67-8	1,3,5-TRIMETHYLBENZENE	120.19	2.21	
45208	95-63-6	1,2,4-TRIMETHYLBENZENE	120.19	2.90	
45209	103-65-1	N-PROPYLBENZENE	120.19	0.56	
45216	135-98-8	S-BUTYLBENZENE	134.21	0.17	
45217	135-01-3	1,2 DIETHYLBENZENE	134.22	0.67	
45218	141-93-5	M-DIETHYLBENZENE	134.22	0.57	
45225	526-73-8	1,2,3-TRIMETHYLBENZENE	120.19	0.81	
45501	100-52-7	BENZALDEHYDE	106.13	0.24	
90002		2,3,5-TRIMETHYLHEXANE	128.25	0.11	
90003		2,4 DIMETHYLHEPTANE	128.26	0.13	
90004		3,5 DIMETHYLHEPTANE	128.26	0.00	(17)
90005		2,5 DIMETHYLHEPTANE	128.26	0.00	(17)
90006		2,3 DIMETHYLHEPTANE	128.26	0.00	(18)
90007	691-37-2	4-METHYL-1-PENTENE	84.16	0.25	(7)

VOC Profile Speciation Report - continued (profile 1203)

Saroad	CAS Number	Name	Spec_MW	Spec_WT	Peak
90008		2-METHYLOCTANE	128.26	0.02	
90009		2,4,5-TRIMETHYLHEPTANE	142.29	0.45	
90042	13269-52-8	T-3-HEXENE	84.16	0.20	
98033		2,2,5-TRIMETHYLHEXANE	128.26	0.48	
98044	496-11-7	INDANE	118.18	0.54	
99910		2,4 DIMETHYLOCTANE	142.29	0.10	
99911		3,4 DIMETHYLOCTANE	142.29	0.96	
99912		1-METHYL-3-ETHYLBENZENE	120.19	1.25	
99913		1-METHYL-2-ETHYLBENZENE	120.19	0.26	
99915	538-93-2	ISOBUTYLBENZENE	134.22	0.49	
99916		1-METHYL-3N-PROPYLBENZENE	134.22	0.39	
99917		1-METHYL-3-ISOPROPYLBENZENE	134.22	0.51	
99918		2-METHYLDECANE	156.32	1.32	
99999		UNIDENTIFIED	86.00	9.08	
TOTAL				100.04	

VOC Profile Speciation Report

Profile Name : Light-Duty Gasoline Vehicles - Evaporative
Profile Number : 1204
Data Quality : B

Control Device :
Reference(s) : 56, 86
Data Source : Composition data collected using GC/FID for evaporative emissions (see Appendix A for details; see also Profile 1101).

Saroad	CAS Number	Name	Spec_MW	Spec_WT	Peak
43135		C10 PARAFFINS	142.28	0.09	
43136		C9 PARAFFIN	128.25	0.00	(20)
43201	74-82-8	METHANE	16.04	0.04	
43202	74-84-0	ETHANE	30.07	0.03	
43203	74-85-1	ETHYLENE	28.05	0.03	
43204	74-98-6	PROPANE	44.09	1.54	(1)
43205	115-07-1	PROPENE	42.08	0.00	(1)
43206	74-86-2	ACETYLENE	26.04	0.01	
43208	463-49-0	PROPADIENE	40.06	0.02	
43209	74-99-7	METHYL ACETYLENE (PROPYNE)	40.06	0.00	
43211	760-20-3	3-METHYL-1-PENTENE	84.16	0.00	(7)
43212	106-97-8	N-BUTANE	58.12	28.34	(3)
43213	106-98-9	BUTENE	56.10	0.00	(2)
43214	75-28-5	ISO-BUTANE	58.12	6.56	
43215	115-11-7	ISOBUTYLENE	56.10	0.86	(2)
43216	624-64-6	T-2-BUTENE	56.11	0.00	(4)
43217	590-18-1	CIS-2-BUTENE	56.11	0.81	(5)
43218	106-99-0	1,3-BUTADIENE	54.09	0.00	(3)
43220	109-66-0	N-PENTANE	72.15	4.67	
43221	78-78-4	ISO PENTANE	72.15	13.60	
43223	563-45-1	3-METHYL-1-BUTENE	70.13	0.18	
43224	109-67-1	1-PENTENE	70.13	0.62	(6)
43226	646-04-8	TRANS-2-PENTENE	70.13	1.11	
43227	627-20-3	CIS-2-PENTENE	70.13	1.13	
43228	513-35-9	2-METHYL-2-BUTENE	70.13	0.74	
43229	107-83-5	2-METHYLPENTANE	86.17	2.28	(8)
43230	96-14-0	3-METHYL PENTANE	86.17	1.17	
43231	110-54-3	HEXANE	86.17	0.72	(10)
43232	142-82-5	HEPTANE	100.20	0.52	
43233	111-65-9	OCTANE	114.23	0.24	
43234	563-78-0	2,3 DIMETHYL-1-BUTENE	84.16	0.00	(8)
43235	111-84-2	NONANE	128.25	0.12	
43238	124-18-5	N-DECANE	142.28	0.20	
43241	1120-21-4	N-UNDECANE	156.31	0.09	
43242	287-92-3	CYCLOPENTANE	70.14	0.00	(7)
43243	78-79-5	ISOPRENE	68.12	0.00	
43245	592-41-6	1-HEXENE	84.16	0.39	(9)
43247	108-08-7	2,4-DIMETHYLPENTANE	100.20	0.59	
43248	110-82-7	CYCLOHEXANE	84.16	0.67	(12)
43250	540-84-1	2,2,4-TRIMETHYLPENTANE	114.22	0.59	
43252	565-75-3	2,3,4-TRIMETHYLPENTANE	114.22	0.59	
43261	108-87-2	METHYLCYCLOHEXANE	98.21	0.33	

VOC Profile Speciation Report - continued (profile 1204)

Saroad	CAS Number	Name	Spec_MW	Spec_WT	Peak
43262	96-37-7	METHYLCYCLOPENTANE	84.16	0.84	(11)
43263	591-76-4	2-METHYL HEXANE	100.20	0.00	(13)
43270	922-61-2	3-METHYL-T-2-PENTENE	84.16	0.00	(11)
43272	693-89-0	METHYLCYCLOPENTENE	82.14	0.07	
43273	110-83-8	CYCLOHEXENE	82.14	0.00	(13)
43274	565-59-3	2,3 DIMETHYL PENTANE	100.20	1.03	(13)
43276	79-29-8	2,3 DIMETHYLBUTANE	86.17	1.04	
43277		2,4-DIMETHYLHEXANE	114.22	0.00	(14)
43278	592-13-2	2,5-DIMETHYLHEXANE	114.22	0.48	(14)
43279	760-21-4	2-ETHYL-1-BUTENE	84.16	0.00	(9)
43280		2,3,3 TRIMETHYLPENTANE	114.22	0.41	
43281	107-00-6	1-BUTYNE	54.09	0.00	(5)
43282	503-17-3	2-BUTYNE	54.09	0.00	(6)
43283		C-3-HEXENE	84.16	0.00	(10)
43284	625-27-4	2-METHYL-2-PENTENE	84.16	0.64	
43285		2-HEXENE	84.16	0.08	
43286		DIMETHYLHEXENE	112.20	0.05	
43287	590-73-8	2,2 DIMETHYLHEXANE	114.22	0.05	
43290		2,3 DIMETHYLHEXANE	114.22	0.00	(15)
43291	75-83-2	2,2-DIMETHYLBUTANE	86.17	1.68	(4)
43292	142-29-0	CYCLOPENTENE	68.11	0.20	
43295	589-34-4	3-METHYLHEXANE	100.20	0.77	
43296	592-27-8	2-METHYLHEPTANE	114.23	0.22	(16)
43297	589-53-7	4-METHYLHEPTANE	114.23	0.10	
43298		3-METHYLHEPTANE	114.23	0.35	
43299		1-METHYLCYCLOHEXENE	96.17	0.00	(16)
43502	50-00-0	FORMALDEHYDE	30.03	0.00	
43503	75-07-0	ACETALDEHYDE	44.05	0.00	
43504	123-38-6	PROPIONALDEHYDE	58.08	0.00	
43505	107-02-8	ACROLEIN	56.07	0.00	
43515	123-73-9	CROTONALDEHYDE	70.09	0.00	
45110		C10 AROMATIC	134.22	0.63	
45201	71-43-2	BENZENE	78.11	0.66	(12)
45202	108-88-3	TOLUENE	92.13	8.51	(15)
45203	100-41-4	ETHYLBENZENE	106.16	0.53	(18)
45204	95-47-6	O-XYLENE	106.16	0.87	(20)
45205	108-38-3	M-XYLENE	106.16	0.00	(19)
45206	106-42-3	P-XYLENE	106.16	2.11	(19)
45207	108-67-8	1,3,5-TRIMETHYLBENZENE	120.19	0.71	
45208	95-63-6	1,2,4-TRIMETHYLBENZENE	120.19	1.21	
45209	103-65-1	N-PROPYLBENZENE	120.19	0.36	
45216	135-98-8	S-BUTYLBENZENE	134.21	0.16	
45217	135-01-3	1,2 DIETHYLBENZENE	134.22	0.13	
45218	141-93-5	M-DIETHYLBENZENE	134.22	0.13	
45225	526-73-8	1,2,3-TRIMETHYLBENZENE	120.19	0.17	
45501	100-52-7	BENZALDEHYDE	106.13	0.00	
90002		2,3,5-TRIMETHYLHEXANE	128.25	0.07	
90003		2,4 DIMETHYLHEPTANE	128.26	0.05	
90004		3,5 DIMETHYLHEPTANE	128.26	0.00	(17)
90005		2,5 DIMETHYLHEPTANE	128.26	0.00	(17)
90006		2,3 DIMETHYLHEPTANE	128.26	0.00	(18)
90007	691-37-2	4-METHYL-1-PENTENE	84.16	1.49	(7)

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VOC Profile Speciation Report  -  continued (profile 1204)
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Saroad      CAS Number      Name                               Spec_MW   Spec_WT   Peak
--------------------------------------------------------------------------------
90008                       2-METHYLOCTANE                     128.26      0.00
90009                       2,4,5-TRIMETHYLHEPTANE             142.29      0.15
90042       13269-52-8      T-3-HEXENE                          84.16      0.13
98033                       2,2,5-TRIMETHYLHEXANE              128.26      0.38
98044         496-11-7      INDANE                             118.18      0.13
99910                       2,4 DIMETHYLOCTANE                 142.29      0.20
99911                       3,4 DIMETHYLOCTANE                 142.29      0.40
99912                       1-METHYL-3-ETHYLBENZENE            120.19      0.95
99913                       1-METHYL-2-ETHYLBENZENE            120.19      0.04
99915         538-93-2      ISOBUTYLBENZENE                    134.22      0.03
99916                       1-METHYL-3N-PROPYLBENZENE          134.22      0.02
99917                       1-METHYL-3-ISOPROPYLBENZENE        134.22      0.13
99918                       2-METHYLDECANE                     156.32      0.21
99999                       UNIDENTIFIED                        86.00      2.61
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TOTAL                                                                   100.06
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3.27 AIRCRAFT

Aircraft engines are primarily reciprocating piston and gas turbine. Aircraft emissions of concern typically occur during landing/takeoff (LTO) cycles. Each class of aircraft has its own typical LTO cycle which includes all of the normal flight and ground operation modes. These operations are divided into five modes: approach, taxi/idle in, taxi/idle out, takeoff, and climbout.

VOC Profile Speciation Report

Profile Name : Aircraft Landing/Takeoff (LTO) - Military
Profile Number : 1097
Data Quality : B

Control Device : Uncontrolled
Reference(s) : 53
Data Source : Composite profile developed from data for a CFM-36 jet engine fired with JP-5 fuel at idle, 30% thrust and 80% thrust. Data collected by GC/MS and DNPH analyses were combined according to average LTO cycle times obtained from AP-42 (4th. Edition) for military aircraft.

SCC Assignments:

Saroad	CAS Number	Name	Spec_MW	Spec_WT	Peak
43111		ISOMERS OF DODECANE	170.32	0.19	
43113		ISOMERS OF TETRADECANE	198.38	0.20	
43114		ISOMERS OF PENTADECANE	212.41	0.18	
43121		ISOMERS OF PENTENE	70.13	0.76	
43137		C16 BRANCHED ALKANE	226.45	0.16	
43140		C7-C16 PARAFFINS	156.31	0.32	
43201	74-82-8	METHANE	16.04	9.38	
43202	74-84-0	ETHANE	30.07	0.91	
43203	74-85-1	ETHYLENE	28.05	18.37	
43204	74-98-6	PROPANE	44.09	0.19	
43205	115-07-1	PROPENE	42.08	5.44	
43206	74-86-2	ACETYLENE	26.04	4.41	
43213	106-98-9	BUTENE	56.10	2.06	
43217	590-18-1	CIS-2-BUTENE	56.11	0.50	
43218	106-99-0	1,3-BUTADIENE	54.09	1.89	
43220	109-66-0	N-PENTANE	72.15	0.22	
43224	109-67-1	1-PENTENE	70.13	0.89	
43228	513-35-9	2-METHYL-2-BUTENE	70.13	0.21	
43229	107-83-5	2-METHYLPENTANE	86.17	0.41	
43232	142-82-5	HEPTANE	100.20	0.07	
43233	111-65-9	OCTANE	114.23	0.05	
43235	111-84-2	NONANE	128.25	0.13	
43238	124-18-5	N-DECANE	142.28	0.44	
43241	1120-21-4	N-UNDECANE	156.31	0.54	
43245	592-41-6	1-HEXENE	84.16	0.86	
43255	112-40-3	N-DODECANE	170.33	1.07	
43258	629-50-5	N-TRIDECANE	184.36	0.67	
43259	629-59-4	N-TETRADECANE	198.38	0.59	
43260	629-62-9	N-PENTADECANE	212.41	0.26	
43264		HEPTENE	98.18	0.54	
43265	111-66-0	OCTENE	112.21	0.30	
43269	124-11-8	1-NONENE	126.24	0.26	
43502	50-00-0	FORMALDEHYDE	30.03	15.48	
43503	75-07-0	ACETALDEHYDE	44.05	4.83	
43504	123-38-6	PROPIONALDEHYDE	58.08	0.98	
43505	107-02-8	ACROLEIN	56.07	2.38	
43510	123-72-8	BUTYRALDEHYDE	72.12	1.24	(1)
43512	66-25-1	HEXANAL	100.16	0.22	

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VOC Profile Speciation Report  -  continued (profile 1097)
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Saroad      CAS Number       Name                               Spec_MW   Spec_WT   Peak
------------------------------------------------------------------------------------
43513        107-22-2        GLYOXAL                             58.04     2.18
43514         78-98-8        METHYL GLYOXAL                      72.07     2.06
43515        123-73-9        CROTONALDEHYDE                      70.09     0.00    ( 1)
43551         67-64-1        ACETONE                             58.08     2.41
45201         71-43-2        BENZENE                             78.11     2.02
45202        108-88-3        TOLUENE                             92.13     0.55
45203        100-41-4        ETHYLBENZENE                       106.16     0.18
45204         95-47-6        O-XYLENE                           106.16     0.20
45220        100-42-5        STYRENE                            104.14     0.41
45231                        PENTYL BENZENE                     148.25     0.21
45235        104-51-8        BUTYL BENZENE                      134.21     0.26
45300        108-95-2        PHENOL                              94.11     0.26
45501        100-52-7        BENZALDEHYDE                       106.13     0.57
46701         91-12-3        NAPTHALENE                         128.17     0.60
46702                        METHYL NAPHTHALENES                142.20     0.52
90010                        M-XYLENE AND P-XYLENE              106.16     0.30
90014       8720-50-9        1-DECENE                           140.27     0.17
90019                        C6H18O3SI3                         222.47     6.96
90020                        C8H24O4SI4                         296.60     2.37
90030        544-76-3        HEXADECANE                         226.45     0.12
90031        629-78-7        N-HEPTADECANE                      240.46     0.01
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TOTAL                                                                     99.96
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VOC Profile Speciation Report

Profile Name : Aircraft Landing/Takeoff (LTO) - Commercial
Profile Number : 1098
Data Quality : B

Control Device : Uncontrolled
Reference(s) : 53
Data Source : Composite profile developed from data for a CFM-36 jet engine fired with JP-5 fuel at idle, 30% thrust and 80% thrust. Data collected by GC/MS and DNPH analyses were combined according to average LTO cycle times obtained from AP-42 (4th. Edition) for commercial aircraft.

SCC Assignments:

Saroad	CAS Number	Name	Spec_MW	Spec_WT	Peak
43111		ISOMERS OF DODECANE	170.32	0.18	
43113		ISOMERS OF TETRADECANE	198.38	0.19	
43114		ISOMERS OF PENTADECANE	212.41	0.17	
43121		ISOMERS OF PENTENE	70.13	0.73	
43137		C16 BRANCHED ALKANE	226.45	0.14	
43140		C7-C16 PARAFFINS	156.31	0.30	
43201	74-82-8	METHANE	16.04	9.57	
43202	74-84-0	ETHANE	30.07	0.88	
43203	74-85-1	ETHYLENE	28.05	17.43	
43204	74-98-6	PROPANE	44.09	0.18	
43205	115-07-1	PROPENE	42.08	5.15	
43206	74-86-2	ACETYLENE	26.04	4.17	
43213	106-98-9	BUTENE	56.10	1.97	
43217	590-18-1	CIS-2-BUTENE	56.11	0.48	
43218	106-99-0	1,3-BUTADIENE	54.09	1.80	
43220	109-66-0	N-PENTANE	72.15	0.21	
43224	109-67-1	1-PENTENE	70.13	0.84	
43228	513-35-9	2-METHYL-2-BUTENE	70.13	0.20	
43229	107-83-5	2-METHYLPENTANE	86.17	0.39	
43232	142-82-5	HEPTANE	100.20	0.06	
43233	111-65-9	OCTANE	114.23	0.05	
43235	111-84-2	NONANE	128.25	0.13	
43238	124-18-5	N-DECANE	142.28	0.42	
43241	1120-21-4	N-UNDECANE	156.31	0.53	
43245	592-41-6	1-HEXENE	84.16	0.82	
43255	112-40-3	N-DODECANE	170.33	1.07	
43258	629-50-5	N-TRIDECANE	184.36	0.66	
43259	629-59-4	N-TETRADECANE	198.38	0.58	
43260	629-62-9	N-PENTADECANE	212.41	0.26	
43264		HEPTENE	98.18	0.54	
43265	111-66-0	OCTENE	112.21	0.28	
43269	124-11-8	1-NONENE	126.24	0.24	
43502	50-00-0	FORMALDEHYDE	30.03	15.01	
43503	75-07-0	ACETALDEHYDE	44.05	4.65	
43504	123-38-6	PROPIONALDEHYDE	58.08	0.95	
43505	107-02-8	ACROLEIN	56.07	2.27	
43510	123-72-8	BUTYRALDEHYDE	72.12	1.20	(1)
43512	66-25-1	HEXANAL	100.16	0.21	

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VOC Profile Speciation Report  -  continued (profile 1098)
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Saroad       CAS Number      Name                                Spec_MW   Spec_WT   Peak
-----------------------------------------------------------------------------------
43513          107-22-2      GLYOXAL                               58.04      2.54
43514           78-98-8      METHYL GLYOXAL                        72.07      1.97
43515          123-73-9      CROTONALDEHYDE                        70.09      0.00    ( 1)
43551           67-64-1      ACETONE                               58.08      2.45
45201           71-43-2      BENZENE                               78.11      1.94
45202          108-88-3      TOLUENE                               92.13      0.52
45203          100-41-4      ETHYLBENZENE                         106.16      0.17
45204           95-47-6      O-XYLENE                             106.16      0.19
45220          100-42-5      STYRENE                              104.14      0.39
45231                        PENTYL BENZENE                       148.25      0.19
45235          104-51-8      BUTYL BENZENE                        134.21      0.24
45300          108-95-2      PHENOL                                94.11      0.24
45501          100-52-7      BENZALDEHYDE                         106.13      0.55
46701           91-12-3      NAPTHALENE                           128.17      0.57
46702                        METHYL NAPHTHALENES                  142.20      0.49
90010                        M-XYLENE AND P-XYLENE                106.16      0.29
90014        8720-50-9       1-DECENE                             140.27      0.17
90019                        C6H18O3SI3                           222.47      9.11
90020                        C8H24O4SI4                           296.60      2.92
90030          544-76-3      HEXADECANE                           226.45      0.12
90031          629-78-7      N-HEPTADECANE                        240.46      0.01
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TOTAL                                                                        99.98
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VOC Profile Speciation Report

Profile Name : Aircraft Landing/Takeoff (LTO) - General Aviation
Profile Number : 1099
Data Quality : C

Control Device : Uncontrolled
Reference(s) : 53
Data Source : Composite profile developed from data for a CFM-36 jet engine fired JP-5 fuel at idle, 30% thrust, and 80% thrust. Data collected by GC/MS and DNPH analyses were combined according to average LTO cycle times obtained from AP-42 (4th. Edition) for general aviation.

SCC Assignments:

Saroad	CAS Number	Name	Spec_MW	Spec_WT	Peak
43111		ISOMERS OF DODECANE	170.32	0.16	
43113		ISOMERS OF TETRADECANE	198.38	0.17	
43114		ISOMERS OF PENTADECANE	212.41	0.15	
43121		ISOMERS OF PENTENE	70.13	0.64	
43137		C16 BRANCHED ALKANE	226.45	0.13	
43140		C7-C16 PARAFFINS	156.31	0.27	
43201	74-82-8	METHANE	16.04	10.95	
43202	74-84-0	ETHANE	30.07	0.92	
43203	74-85-1	ETHYLENE	28.05	15.48	
43204	74-98-6	PROPANE	44.09	0.20	
43205	115-07-1	PROPENE	42.08	4.59	
43206	74-86-2	ACETYLENE	26.04	3.69	
43213	106-98-9	BUTENE	56.10	1.79	
43217	590-18-1	CIS-2-BUTENE	56.11	0.45	
43218	106-99-0	1,3-BUTADIENE	54.09	1.57	
43220	109-66-0	N-PENTANE	72.15	0.19	
43224	109-67-1	1-PENTENE	70.13	0.75	
43228	513-35-9	2-METHYL-2-BUTENE	70.13	0.18	
43229	107-83-5	2-METHYLPENTANE	86.17	0.35	
43232	142-82-5	HEPTANE	100.20	0.06	
43233	111-65-9	OCTANE	114.23	0.04	
43235	111-84-2	NONANE	128.25	0.15	
43238	124-18-5	N-DECANE	142.28	0.42	
43241	1120-21-4	N-UNDECANE	156.31	0.52	
43245	592-41-6	1-HEXENE	84.16	0.76	
43255	112-40-3	N-DODECANE	170.33	1.21	
43258	629-50-5	N-TRIDECANE	184.36	0.66	
43259	629-59-4	N-TETRADECANE	198.38	0.59	
43260	629-62-9	N-PENTADECANE	212.41	0.27	
43264		HEPTENE	98.18	0.52	
43265	111-66-0	OCTENE	112.21	0.25	
43269	124-11-8	1-NONENE	126.24	0.22	
43502	50-00-0	FORMALDEHYDE	30.03	14.14	
43503	75-07-0	ACETALDEHYDE	44.05	4.32	
43504	123-38-6	PROPIONALDEHYDE	58.08	0.90	
43505	107-02-8	ACROLEIN	56.07	2.06	
43510	123-72-8	BUTYRALDEHYDE	72.12	1.19	(1)
43512	66-25-1	HEXANAL	100.16	0.20	

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VOC Profile Speciation Report  -  continued (profile 1099)
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Saroad       CAS Number       Name                              Spec_MW  Spec_WT   Peak
--------------------------------------------------------------------------------
43513          107-22-2       GLYOXAL                             58.04     2.53
43514           78-98-8       METHYL GLYOXAL                      72.07     1.81
43515          123-73-9       CROTONALDEHYDE                      70.09     0.00   ( 1)
43551           67-64-1       ACETONE                             58.08     2.93
45201           71-43-2       BENZENE                             78.11     1.79
45202          108-88-3       TOLUENE                             92.13     0.49
45203          100-41-4       ETHYLBENZENE                       106.16     0.15
45204           95-47-6       O-XYLENE                           106.16     0.18
45220          100-42-5       STYRENE                            104.14     0.37
45231                         PENTYL BENZENE                     148.25     0.17
45235          104-51-8       BUTYL BENZENE                      134.21     0.22
45300          108-95-2       PHENOL                              94.11     0.22
45501          100-52-7       BENZALDEHYDE                       106.13     0.53
46701           91-12-3       NAPTHALENE                         128.17     0.51
46702                         METHYL NAPHTHALENES                142.20     0.44
90010                         M-XYLENE AND P-XYLENE              106.16     0.26
90014        8720-50-9        1-DECENE                           140.27     0.15
90019                         C6H18O3SI3                         222.47    11.77
90020                         C8H24O4SI4                         296.60     4.20
90030          544-76-3       HEXADECANE                         226.45     0.14
90031          629-78-7       N-HEPTADECANE                      240.46     0.01
--------------------------------------------------------------------------------
TOTAL                                                                      99.98
================================================================================
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3.28 FOREST FIRES

A forest "wildfire" is a large-scale natural combustion process that consumes various types of botanical specimens growing outdoors in a defined geographical area. The size and intensity of a wildfire is dependent on such variables as the local meteorological conditions, tree types and their moisture content, and the weight of consumable fuel per acre (fuel loadings). Forest fire emissions are a complex mixture of solids, liquids, and gases. Carbon dioxide and water vapor constitute over 90 percent of the total mass emitted.

VOC Profile Speciation Report

Profile Name : Miscellaneous Burning - Forest Fires
Profile Number : 0307
Data Quality : C

Control Device : Uncontrolled
Reference(s) : 73
Data Source : Engineering evaluation of literature data.

SCC Assignments:

Saroad	CAS Number	Name	Spec_MW	Spec_WT	Peak
43120		ISOMERS OF BUTENE	56.10	0.92	
43122		ISOMERS OF PENTANE	72.15	0.15	
43201	74-82-8	METHANE	16.04	9.82	
43202	74-84-0	ETHANE	30.07	10.47	
43203	74-85-1	ETHYLENE	28.05	19.11	
43204	74-98-6	PROPANE	44.09	0.35	
43205	115-07-1	PROPENE	42.08	3.93	
43206	74-86-2	ACETYLENE	26.04	8.40	
43209	74-99-7	METHYLACETYLENE (PROPYNE)	40.06	0.41	
43212	106-97-8	N-BUTANE	58.12	0.24	
43213	106-98-9	BUTENE	56.10	0.81	
43214	75-28-5	ISO-BUTANE	58.12	0.11	
43218	106-99-0	1,3-BUTADIENE	54.09	0.52	
43223	563-45-1	3-METHYL-1-BUTENE	70.13	0.17	
99999		UNIDENTIFIED	86.00	44.59	
TOTAL				100.00	

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APPENDIX A

LITERATURE SEARCH AND VOC SPECIES PROFILE DEVELOPMENT

APPENDIX A

LITERATURE SEARCH AND VOC SPECIES PROFILE DEVELOPMENT

This appendix briefly summarizes the literature search conducted in this study and describes how new VOC profiles were developed from these data.

A.1 LITERATURE SEARCH AND DATA REVIEW

Before conducting a literature search to collect new data, the 1980 Data Manual was carefully reviewed to identify poor quality and/or outdated profile data, and data gaps. The data confidence levels assigned to each profile in the Data Manual were used as a criterion for poor quality. Profiles for the following source categories were identified to be of poor quality: surface coating, printing press, solvent use, solid waste incineration, petroleum industry, chemical manufacturing, textiles, mineral products, and internal combustion engines. Conversations with users of the Data Manual have helped to identify outdated data (e.g., mobile sources, gasoline storage/marketing/handling, and organic solvent usage).

The first step in data collection was to conduct a computerized literature search of the Engineering Index, Chemical Abstracts, and National Technical Information Services data bases. The key words (and several combinations) used in the search included the following:

VOC
Volatile organic compound
Speciation
Organic species profiles
Profiles
Emission inventories (air)
Photochemical modeling
Chemical species distribution
Species
Particulate matter profiles

Volatile matter
Smog
Exhaust emissions
Gasoline motor vehicle emissions
Diesel motor vehicle emissions
Organic solvents
Hydrocarbon composition
Cleaningsolvents
Household (consumer) products
Asphalt

PM_{10}
PM
Particles
Hydrocarbon emissions
Reactive organic compounds
Reactive hydrocarbons
Petroleum products
Textile industry
Degreasing
Vegetation
Natural emissions
Biogenic

The literature search efforts also focused on the following list of toxic/potentially toxic air pollutants:

Arsenic
Asbestos
Benzene
Beryllium
1,3-Butadiene
Cadmium
Carbon tetrachloride
Chloroform
Chromium
Coke oven emissions
Ethylene dibromide
Ethylene dichloride
Ethylene oxide
Formaldehyde
Gasoline vapors
Mercury
Methylene chloride
Perchloroethylene
Polycyclic organic matter
Radionuclides
Trichloroethylene
Vinyl chloride
Vinylidene chloride

Although no particulate matter (PM) profiles are contained in the interim document, the computerized literature search efforts also included PM species. Information identified relating to PM species will be used in the second phase of this study.

One of the key references used in this study was a study conducted for the California Air Resources Board (Improvement of the Emission Inventory for Reactive Organic Gases and Oxides of Nitrogen in the South Coast Air Basin, Reference 1). Other sources of information reviewed included the National Acid Precipitation Assessment Program (NAPAP), Northeast Corridor Regional Modeling Project (NECRMP), State data files, Atmospheric Sciences Research

Laboratory, Environment Canada, and Section 114 responses and trip reports from several standard development activities. See the References section for a complete listing of references used to develop the new profiles. (This list does not include the documents that were also reviewed but not found useful.)

A.2 VOC SPECIES PROFILE DEVELOPMENT

A.2.1 Profile Development Based on Existing Data

All data identified through the literature search efforts were used as reported. No attempt was made to verify their completeness. Only those data for which original documentation was available were included. The data used in developing the profiles were available in different forms. Some of the data were already expressed as weight percentages. In other cases, calculations were necessary to convert from volumetric percentage (or mole percentage) and emission flow rate (volumetric or mass rate) to weight percentages.

For several cases, data available from a number of facilities/sources were combined in proportion to the VOC emissions from each facility/source to develop a composite profile. For example, in developing Profile 1070 (methanol production - purge gas vent), two sets of data each based on volume percent were available. The first calculation consisted of conversion from volume percent to weight percent. Assuming 100 lb. moles of VOC gas mixture, the weight of each species in the mixture was calculated by multiplying its volume percent by its molecular weight. The weight percentages were calculated by dividing the weight of each species by the total weight and multiplying by 100. These calculations are summarized below:

		Stream A			Stream B		
Species	Molecular Weight	Vol %	Weight lb	Weight %	Vol %	Weight lb	Weight %
Methanol	32.04	0.20	6.41	0.39	2.62	83.94	4.18
Dimethyl ether	46.10	1.72	79.29	4.78	12.08	556.89	27.72
Methane	16.04	98.08	1573.20	94.83	85.29	1368.05	68.10
			1658.90			2008.88	

These two streams were combined in proportion to their VOC emissions to develop Profile 1070. The VOC emission rates for Stream A and B were 1059 lb/hr and 462 lb/hr, respectively. The data for Stream A were weighted by a factor of [1059/(1059 + 462)] = 0.6963 and for Stream B were weighted by a factor of [462/(1059 + 462)] = 0.3037 as shown below:

Composite Data:

Species			Weight %
Methanol	(0.39 x 0.6963) + (4.18 x 0.3037)	=	1.54
Dimethyl ether	(4.78 x 0.6963) + (27.72 x 0.3037)	=	11.75
Methane	(94.83 x 0.6963) + (68.10 x 0.3037)	=	86.71

In a few cases, developing profiles and composite profiles was based on more complex calculations. Section A.2.2 provides a documentation of the procedures that were required to develop profiles for light-duty gasoline vehicles.

A.2.2 Documentation of the Mobile Source Profile Development Procedures

The purpose of this section is to provide a description of the calculation procedures used to develop VOC speciation profiles for the Light-Duty Gasoline Vehicles (LDGV) category. The specific profiles of concern are 1101, 1203, and 1204. The Light-Duty Gasoline Vehicles Profile 1101 was developed using the 46 in-use passenger car study conducted by Sigsby, et al.[1] Exhaust and evaporative (hot soak) emission composition data collected during this study were composited using information from AP-42, Volume II (fourth edition).[2] Data generated by Sigsby, et al did not contain measurements of diurnal emission composition. Therefore, diurnal emission composition data were estimated using data from a study by Black and High and another study by Gabele.[3,4]

The data set from the 46-car study was representative of in-use vehicles from 1975 to 1982. For model years prior to 1975 and after 1982, it was assumed that the data for model years 1975 and 1982, respectively, would be representative.

In developing Profile 1101, average exhaust and evaporative emission profiles for each model year were weighted according to the exhaust and evaporative hydrocarbon emission rates reported in AP-42 for light duty gasoline vehicles - low altitude (includes tampering). Then, the composite profile for each calendar year was weighted in proportion to the travel fraction for that model year to yield Profile 1101. The travel fractions were calculated using the information in AP-42. The calculation procedure used for Profile 1101 is illustrated below.

(a) For each car, estimate average exhaust emission composition from the Federal Test Procedures (FTP), New York City Cycle (NYCC), and Crowded Urban Expressway (CUE) test data:

Exhaust average car = (FTP + NYCC + CUE)/3

(b) For each model year, calculate average exhaust emission composition:

Exhaust average model year = $\sum_{i=1}^{n}$ exhaust average car/n

where n is the number of cars tested for a given model year.

(c) For each model year, calculate average hot soak evaporative composite:

Hot soak average model year = $\sum_{i=1}^{n}$ hot soak car/n

(d) Estimate an average diurnal evaporative composition using the data from References 3 and 4. Assume this represents all model years.

(e) For each model year, estimate average evaporative emission composition:

Evaporative average model year = (0.265 x hot soak average model year + 0.735 x average diurnal)/2

The weighting factors 0.265 and 0.735 were estimated from Reference 5.

(f) Estimate weighting factors for exhaust and evaporative emissions for model years 1968-1987. Use AP-42 (pp. H-4,6) for LDGV at low altitude (including tampering).

- estimate accumulated mileage
- estimate evaporative emissions
- estimate exhaust emissions
- estimate fraction of evaporative emissions (f_{ev})
- estimate fraction of exhaust emissions (f_{ex})

(g) Estimate weighted average exhaust/evaporative emission composition for each model year:

Exhaust/evaporative average model year = f_{ex}(exhaust average model year) + f_{ev}(evaporative average model year)

(h) Estimate travel fraction (f_{tr}) for each model year from 1968-1987. Use the procedure in AP-42 (pp. H-11,12).

(i) Weight the profiles from (g) by travel fractions estimated in (h).

$$\text{Profile 1101} = \sum_{1968}^{1987} f_{tr} \text{ model year} \times (\text{Exhaust/evaporative average model year})$$

In the profile data, 15 percent of n-butane in exhaust emissions was assumed to exist as 1,3-butadiene.[6,7] Also, the split between cyclohexane and benzene in the cyclohexane/benzene peak was assumed as 50/50.[8]

FACTORS USED IN DEVELOPING PROFILE 1101

Year	f_{ex}	f_{ev}	f_{tr}
1968	.67	.33	.004
1969	.67	.33	.003
1970	.68	.32	.005
1971	.71	.29	.007
1972	.72	.28	.011
1973	.72	.28	.016
1974	.72	.28	.021
1975	.70	.30	.028
1976	.69	.31	.034
1977	.68	.32	.041
1978	.84	.16	.049
1979	.83	.17	.056

FACTORS USED IN DEVELOPING PROFILE 1101
(Continued)

Year	f_{ex}	f_{ev}	f_{tr}
1980	.69	.31	.065
1981	.66	.34	.074
1982	.63	.37	.084
1983	.60	.40	.097
1984	.56	.44	.110
1985	.50	.50	.123
1986	.40	.60	.135
1987	.33	.67	.038

f_{ex} = exhaust average model year emission composition.
f_{ev} = evaporative average model year emission composition.
f_{tr} = travel fraction for each model year.

The approach used for developing Profiles 1203 and 1204 to represent exhaust and evaporative emissions, respectively, from light-duty vehicles was similar to that used for Profile 1101. For Profile 1203, steps (c), (d), (e), (f), and (g) outlined for Profile 1101 were not applied. Step (i) was applied after the exhaust average model year term replaced the exhaust/evaporative average model year term. For Profile 1204, steps (a), (b), (f), and (g) were not applied. In the final step (i), the exhaust/evaporative average model year term was replaced by the evaporative average model year and the f_{tr} model year term was applied to only the hot soak average model year position.

Table A-1 provides a numerical listing of new profiles contained in this document including the profile name and its location in this volume.

A.2.3 Profile Development Based on Engineering Judgement

Pure Component Profiles - For several categories representing storage of pure organic chemicals or use of pure solvents in operations such as dry cleaning, degreasing, or surface coating, new VOC profiles were developed using engineering judgement. In all cases, these profiles consisted of a single species with a weight percent of 100.

Industry-Specific Average Profiles - In characterizing SCC's with profile assignments, there were several instances where it was difficult to make profile assignments based on engineering judgement. For such SCC's, industry-specific average profiles were developed from original profiles representing other SCC's within the particular industry group. These profiles have profile numbers beginning with 9 and they are assigned a data quality level of "E." The industry-specific average profiles are recommended for use only if no other information is available. These profiles are presented in Appendix B.

"Zero" Profile - Profile 0000 is an overall average of all the VOC profiles in the data base. It is intended for use as a default profile in emission inventory development applications to characterize nonzero VOC emissions reported for SCC's that are associated with "zero" or "negligible" VOC emission factors. The SCC's with "zero" or "negligible" VOC emission factors are based on the document "Emission Factors for the 1985 NAPAP Emissions Inventory" (EPA-600/7-87-015).

REFERENCES FOR APPENDIX A

1. Sigsby, J. E., Jr. et al. Volatile Organic Compound Emissions from 46 In-Use Passenger Cars. Environmental Science and Technology, Volume 21, No. 5, 1987. pp. 466-475.

2. U. S. Environmental Protection Agency. Compilation of Air Pollutant Emission Factors, Volume II - Mobile Sources, AP-42 (fourth edition). September 1985.

3. Black, F. and L. High. Passenger Car Hydrocarbon Emissions Speciation. EPA Report No. EPA-600/2-80-085. U. S. Environmental Protection Agency, Research Triangle Park, North Carolina. May 1980.

4. Telecon. Gunseli Shareef, Radian Corporation with P. A. Gabele, U. S. Environmental Protection Agency. July 1987. Diurnal emission composition data.

5. Black, F. HC Emissions from Late Model Gasoline Motor Vehicles. U. S. Environmental Protection Agency, Research Triangle Park, North Carolina. 1987.

6. Memorandum from John E. Sigsby, Jr., U. S. Environmental Protection Agency/Atmospheric Sciences Research Laboratory to John Summerhays, U. S. Environmental Agency/Region 5. January 30, 1987. Review of report "Air Toxics Emission Inventory for the Southeast Chicago Area".

7. Telecon. Gunseli Shareef, Radian Corporation with Penny Carey, U. S. Environmental Protection Agency/Office of Mobile Sources. March 24, 1987. Percentage of 1,3-butadiene in vehicle emissions where it is reported as n-butane/ 1,3-butadiene.

8. Memorandum from Gray, C. L., U. S. Environmental Protection Agency to J. Calcagni, U. S. Environmental Protection Agency and W. Laxton, U. S. Environmental Protection Agency. March 23, 1989. Motor Vehicle VOC Speciation for SIP Development.

TABLE A-1. PROFILE LISTING

Profile Number	Profile Name	Page Number
0001	External Combustion Boiler - Residual Oil	27
0002	External Combustion Boiler - Distillate Oil	28
0003	External Combustion Boiler - Natural Gas	29
0004	External Combustion Boiler - Refinery Gas	30
0005	External Combustion Boiler - Coke Oven Gas	31
0007	Natural Gas Turbine	39
0008	Reciprocating Diesel Fuel Engine	40
0009	Reciprocating Distillate Oil Engine	41
0011	By-Product Coke Oven Stack Gas	137
0012	Blast Furnace Ore Charging and Agglomerate	138
0013	Iron Sintering	139
0014	Open Hearth Furnace with Oxygen Lance	140
0016	Basic Oxygen Furnace	141
0023	Asphalt Roofing - Spraying	149
0024	Asphalt Roofing - Tar Kettle	150
0025	Asphaltic Concrete - Natural Gas Rotary Dryer	151
0026	Asphaltic Concrete - In Place Road Asphalt	152
0029	Refinery Fluid Catalytic Cracker	157
0031	Refinery Fugitive Emissions - Covered Drainage/Separation Pits	158
0035	Refinery Fugitive Emissions - Cooling Towers	159
0039	Refinery Fugitive Emissions - Compressor Seals Refinery Gas	160
0047	Refinery Fugitive Emissions - Relief Valves, Liquified Petroleum Gas	161
0051	Natural Gas	162
0066	Varnish Manufacturing - Bodying Oil	55
0068	Manufacturing - Plastics - Polypropylene	59
0072	Printing Ink Cooking	67
0076	General Pesticides	75
0078	Ethylene Dichloride - Direct Chlorination	76

TABLE A-1. PROFILE LISTING (Continued)

Profile Number	Profile Name	Page Number
0079	Chemical Manufacturing - Flares	77
0085	Perchloroethylene - Drycleaning	197
0087	Degreasing - 1,1,1-Trichloroethane	198
0088	Degreasing - Trichlorofluoromethane (Freon 11)	199
0089	Degreasing - 1,1,2-Trichloroethane	200
0090	Degreasing - Toluene	201
0100	Fixed Roof Tank - Commercial Jet Fuel (Jet-A)	257
0121	Open Burning Dump - Landscape/Pruning	365
0122	Bar Screen Waste Incinerator	366
0127	Surface Coating - Varnish/Shellac	225
0166	Printing Press - Letterpress Inking Process	273
0182	Printing Press - Gravure General Solvent	274
0183	Printing Press - Gravure Printing Solvent	275
0195	Residential Fuel - Natural Gas	32
0197	Solvent Use - Domestic Solvents	202
0202	Solid Waste Landfill Site - Class II	367
0203	Solid Waste - Animal Waste Decomposition	368
0217	Coke Oven Blast Furnace Gas	33
0219	Surface Coating Paint Solvent - Acetone	226
0220	Paint Solvent - Ethyl Acetate	227
0221	Paint Solvent - Methyl Ethyl Ketone	228
0222	Surface Coating - Enamel - Cellosolve Acetate	229
0223	Surface Coating - Varnish/Shellac Solvent - Xylene	230
0225	Surface Coating - Primer - Mineral Spirits	231
0226	Surface Coating Solvent - Ethyl Alcohol	232
0227	Surface Coating Solveht - Isopropyl Alcohol	233
0228	Surface Coating Solvent - Isopropyl Acetate	234

TABLE A-1. PROFILE LISTING (Continued)

Profile Number	Profile Name	Page Number
0229	Surface Coating Solvent - Lactol Spirits	235
0230	Fixed Roof Tank - Hexane	283
0271	Degreasing - Trichloroethylene	203
0272	Automotive Tires - Tuber Adhesive	171
0273	Automotive Tires - Tuber Adhesive White Sidewall	172
0274	Automobile Tire Production	173
0275	Degreasing - Dichloromethane	204
0277	Degreasing - Trichlorotrifluoroethane (Freon 113)	205
0282	Surface Coating Primer - Naphtha	236
0288	Surface Coating Solvent - Butyl Acetate	237
0289	Surface Coating Solvent - Butyl Alcohol	238
0290	Surface Coating Solvent - Cellosolve	239
0291	Surface Coating Solvent - Methyl Alcohol	240
0292	Surface Coating Solvent - Dimethylformamide	241
0296	Fixed Roof Tank - Crude Oil Production	258
0297	Fixed Roof Tank - Crude Oil Refinery	259
0299	Fixed Roof Tank - Cyclohexane	284
0301	Fixed Roof Tank - Heptane	285
0304	Printing Press - Flexographic, n-Propyl Alcohol	286
0305	Fixed Roof Tank - Crude Oil Marine Terminal	260
0307	Miscellaneous Burning - Forest Fires	401
0316	Pipe/Valve Flanges	163
0321	Pump Seals - Composite	164
0332	Printing Press - Lithography Inking and Drying	276
0333	Lithography - Inking and Drying-Direct Fired Dryer	277
1001	Internal Combustion Engine - Natural Gas	42
1002	Chemical Manufacturing - Carbon Black Production	47
1003	Surface Coating Operations - Coating Application - Solvent-base Paint	242

TABLE A-1. PROFILE LISTING (Continued)

Profile Number	Profile Name	Page Number
1004	Plastics Production - Polystyrene	60
1005	Plastics Production - Polyester Resins	61
1006	Phthalic Anhydride - o-Xylene Oxidation - Main Process Stream	78
1007	Mineral Products - Asphaltic Concrete	153
1008	Rubber and Miscellaneous Plastics Products - Fabricated Rubber Products - Styrene/Butadiene	174
1009	Plastics Production - Acrylonitrile - Butadiene - Styrene Resin	62
1010	Oil and Gas Production - Fugitives - Unclassified	177
1011	Oil and Gas Production - Fugitives - Valves and Fittings - Liquid Service	178
1012	Oil and Gas Production - Fugitives - Valves and Fittings - Gas Service	179
1013	Surface Coating Operations - Coating Application - Water-base Paint	243
1014	Gasoline - Summer Blend	261
1015	Gasoline - Winter Blend	263
1016	Surface Coating Operations - Thinning Solvents - Composite	244
1017	Surface Coating Operations - Coating Application - Lacquer	245
1018	Surface Coating Operations - Coating Application - Enamel	246
1019	Surface Coating Operations - Coating Application - Primer	247
1020	Surface Coating Operations - Coating Application - Adhesives	248
1021	Degreasing - Open Top - Chlorosolve	206
1022	Printing/Publishing - Ink Thinning Solvents - Methyl Isobutyl Ketone	278
1023	Terephthalic Acid/Dimethyl Terephthalate - Crystallization, Separation and Drying Vent	79
1024	Terephthalic Acid/Dimethyl Terephthalate - Distillation and Recovery Vent	80
1025	Terephthalic Acid/Dimethyl Terephthalate - Product Transfer Vent	81
1026	Surface Coating Operations - Thinning Solvent - Hexylene Glycol	249
1027	Ketone Production - Methyl Ethyl Ketone (MEK)	82
1028	Acetone - Light Ends Distillation Vent	83
1029	Acetone - Acetone Finishing Column	84
1030	Aldehydes Production - Formaldehyde - Absorber Vent	85
1031	Surface Coating Operations - Thinning Solvent - Ethylene Oxide	250

TABLE A-1. PROFILE LISTING (Continued)

Profile Number	Profile Name	Page Number
1032	Aldehydes Production - Acrolein - Distillation System	86
1033	Aldehydes Production - Acrolein - Reactor Blowoff Gas	87
1034	Chloroprene - Butadiene Dryer	88
1035	Chloroprene - Chloroprene Stripper and Brine Stripper	89
1036	Secondary Aluminum - Pouring and Casting	142
1037	Organohalogens - Ethylene Dichloride - Ethylene Dichloride Via Direct Chlorination - Distillation Vents	90
1038	Organohalogens Production - Ethylene Dichloride - Ethylene Dichloride Via Oxychlorination	91
1039	Organohalogens Production - Ethylene Dichloride - Caustic Scrubber	92
1040	Fluorocarbons/Chlorofluorocarbons - General	93
1041	Fluorocarbons/Chlorofluorocarbons - Distillation Column	94
1042	Fluorocarbons/Chlorofluorocarbons - Fugitive Emissions - General	95
1043	Acrylic Acid - Quench Absorber	96
1044	Organic Acids Production - Formic Acid	97
1045	Organic Acids Production - Acetic Anhydride - Distillation Column Vent	98
1046	Esters Production - Acrylates - Ethyl Acrylate	99
1047	Esters Production - Butyl Acrylate	100
1048	Cumene Production - Cumene Distillation System Vent	101
1049	Cyclohexane - General	102
1050	Cyclohexanone/Cyclohexanol - Phenol Hydrogenation Process - Distillation Vent	103
1051	Vinyl Acetate - Inert Gas Purge Vent	104
1052	Vinyl Acetate - CO_2 Purge Vent	105
1053	Vinyl Acetate - Inhibitor Mix Tank Discharge	106
1054	Vinyl Acetate - Refining Column Vent	107
1055	Organic Chemical Storage - Methylamyl Ketone	287
1056	Ethylene Oxide - Oxygen Oxidation Process Reactor - CO_2 Purge Vent	108
1057	Ethylene Oxide - Oxygen Oxidation Process Reactor - Argon Purge Vent	109
1058	Ethylene Oxide - Stripper Purge Vent	110
1059	Methyl Methacrylate (MMA) - Hydrolysis Reactor, MMA and Light Ends Distillation Unit	111

TABLE A-1. PROFILE LISTING (Continued)

Profile Number	Profile Name	Page Number
1060	Methyl Methacrylate (MMA) - Acid Distillation and MMA Purification	112
1061	Nitrobenzene - Reactor and Separator Vent - Washer and Neutralizer Vent	113
1062	Benzene	114
1064	Olefins Production - Ethylene - Compressor Lube Oil Vent	115
1065	Propylene Oxide - Chlorohydronation Process - General	116
1066	Styrene - General	117
1067	Styrene - Benzene Recycle	118
1068	Styrene - Styrene Purification	119
1069	Organic Chemical Storage - N-Propyl Acetate	288
1070	Alcohols Production - Methanol - Purge Gas Vent	120
1071	Alcohols Production - Methanol - Distillation Vent	121
1072	Chlorobenzene - Tail Gas Scrubber	122
1073	Chlorobenzene - Benzene Drying Distillation	123
1074	Monochlorobenzene	124
1075	Chlorobenzene - Vacuum System Vent	125
1076	Chlorobenzene - Dichlorobenzene Crystallization	126
1077	Chlorobenzene - Dichlorobenzene Crystal Handling/Loading	127
1078	Railcar Cleaning - Low Vapor Pressure, High Viscosity Cargo (Ethylene Glycol)	357
1079	Railcar Cleaning - Low Vapor Pressure, Medium Viscosity Cargo (o-Dichlorobenzene)	358
1080	Railcar Cleaning - Low Vapor Pressure, High Viscosity Cargo (Creosote)	359
1081	Tank Truck Cleaning - Medium Vapor Pressure, Medium Viscosity Cargo (Methyl Methacrylate)	360
1082	Tank Truck Cleaning - Low Vapor Pressure, Low Viscosity Cargo (Phenol)	361
1083	Tank Truck Cleaning - Low Vapor Pressure, High Viscosity Cargo (Propylene Glycol)	362
1084	Residential Wood Combustion (C1-C6)	371
1085	External Combustion Boiler - Coal-Slurry Fired	34
1086	Printing/Flexographic	279
1087	Organic Chemical Storage/i-Butyl i-Butyrate	289
1088	Surface Coating Operations - Adhesive Application	251
1089	Secondary Metal Production - Gray Iron Foundries - Pouring/Casting	143

TABLE A-1. PROFILE LISTING (Continued)

Profile Number	Profile Name	Page Number
1090	Fluorocarbon Manufacturing - CF 12/11	128
1091	Plastics Production - Polyvinyl Chlorides and Copolymers	63
1092	Synthetic Organic Fiber Production - Nylon Batch Production Process	71
1093	Fluorocarbon Manufacturing - CF 23/22	129
1094	Paint Manufacture - Blending Kettle	51
1095	Textile Products - General Fabric Operations - Dyeing and Curing	191
1096	Textile Products - General Fabric Operations - Tenter Frame	193
1097	Aircraft Landing/Takeoff (LTO) - Military	393
1098	Aircraft Landing/Takeoff (LTO) - Commercial	395
1099	Aircraft Landing/Takeoff (LTO) - General Aviation	397
1100	Gasoline Refueling	265
1101	Light Duty Gasoline Vehicles	377
1103	1-Pentene	290
1104	Acetaldehyde	291
1105	Acetic Acid	292
1106	Acetic Anhydride	293
1107	Acrolein	294
1108	Acrylic Acid	295
1109	Acrylonitrile	296
1110	Adipic Acid	297
1111	Aniline	298
1112	Benzyl Chloride	299
1114	Butyl Acrylate	300
1115	Butyl Carbitol	301
1116	Butyl Cellosolve	302
1118	Carbitol	303
1119	Carbon Tetrachloride	304
1120	Acetylene	130

TABLE A-1. PROFILE LISTING (Continued)

Profile Number	Profile Name	Page Number
1121	Chloroform	305
1122	Cresol	306
1123	Cumene	307
1124	Cyclohexanol	308
1125	Cyclohexanone	309
1126	Cyclopentene	310
1127	Diethylene Glycol	311
1128	Diisopropyl Benzene	312
1129	Dipropylene Glycol	313
1130	Dodecene	314
1131	Epichlorohydrin	315
1132	Ethanolamines	316
1134	Ethyl Acrylate	317
1135	Ethyl Benzene	318
1136	Ethyl Ether	319
1137	Ethyl Mercaptan	320
1138	Ethylene Dibromide	321
1139	Ethyleneamines	322
1140	Formaldehyde	323
1141	Formic Acid	324
1142	Furfural	207
1144	Heptenes	325
1145	Isobutyraldehyde	326
1146	Isobutyl Acrylate	327
1147	Isobutyl Alcohol	328
1148	Isoprene	329
1149	Methanol	208
1150	Methyl Acetate	330

TABLE A-1. PROFILE LISTING (Continued)

Profile Number	Profile Name	Page Number
1151	Methyl Acrylate	331
1152	Methyl Carbitol	332
1153	Methyl Cellosolve	333
1154	Methyl Styrene	334
1155	Methylallene	335
1158	Methyl t-Butyl Ether	336
1159	m-Xylene	337
1160	Nitrobenzene	338
1162	N-Butyraldehyde	339
1163	N-Decane	340
1164	N-Dodecane	341
1165	o-Xylene	342
1166	Pentadecane	343
1167	Residential Wood Combustion	372
1168	Piperylene	344
1171	Propionaldehyde	345
1172	Propionic Acid	346
1173	Propylene Oxide	347
1174	p-Xylene	348
1175	Tert-Butyl Alcohol	349
1176	Toluene Diisocyanate	350
1178	Coal-Fired Boiler - Electric Generation	35
1185	Coal-Fired Boiler - Industrial	36
1186	Heavy-Duty Gasoline Trucks	380
1187	Citrus Coating	252
1188	Fermentation Processes	133
1189	Pulp and Paper Industry - Plywood Veneer Dryer	167
1190	Gasoline Marketed	267

TABLE A-1. PROFILE LISTING (Continued)

Profile Number	Profile Name	Page Number
1191	Graphic Arts - Printing	280
1192	Degreasing	209
1193	Drycleaning	212
1194	Auto Body Repair	253
1195	Degreasing Composite	215
1196	Drycleaning Composite	219
1197	Isooctane	351
1198	Pentane	352
1199	Isopentane	353
1200	Cyclopentane	354
1201	Light-Duty Diesel Vehicles	383
1202	Primary Aluminum Production	144
1203	Light-Duty Gasoline Vehicles - Exhaust Emissions	385
1204	Light-Duty Gasoline Vehicles - Evaporative Emissions	388
1205	Crude Oil Production - Well Heads (Water Flood)	180
1206	Crude Oil Production - Well Heads (Water Flood)	181
1207	Well Heads (Water Flood) Composite	182
1208	Crude Oil Production - Gathering Tanks	183
1209	Oilfield Pipeline Tanks	184
1210	Pipeline Terminal Tanks	185
1211	Refinery Crude Oil Storage Tanks	186
1212	Crude Oil Production - Well Heads (Gas Drive)	187

APPENDIX B

INDUSTRY-SPECIFIC AVERAGE PROFILES AND "ZERO" PROFILE

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APPENDIX B

INDUSTRY-SPECIFIC AVERAGE PROFILES AND "ZERO" PROFILE

This appendix contains the industry-specific average profiles developed from original profiles representing specific SCC's within the particular industry group. These profiles are recommended for use only if no other information is available. Since there is no specific SCC associated with these profiles, the entry for SCC designation on the profile is modified as "no original SCC."

This appendix also contains Profile 0000 which is an overall average of all the VOC profiles in this document. This profile is intended for use as a default profile to characterize nonzero VOC emissions reported by States or any other agency for SCC's with "zero" or "negligible" VOC emission factors in the "Criteria Pollutant Emission Factors for the 1985 NAPAP Emissions Inventory" (EPA-600/7-87-015).

A numerical listing of the profiles included in this appendix is given below:

Profile Number	Profile Name
0000	Overall Average
9001	External Combustion Boilers - Industrial - Average
9002	Internal Combustion - Average
9003	Industrial Processes - Average
9004	Chemical Manufacturing - Average
9005	Plastics Production - Average
9006	Synthetic Organic Fiber Production - Average
9007	Alcohols Production - Average
9008	Food and Agriculture - Average
9009	Primary Metal Production - Average

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Profile Number	Profile Name
9010	Secondary Metal Production - Average
9011	Mineral Products - Average
9012	Petroleum Industry - Average
9013	Pulp and Paper Industry - Average
9014	Rubber and Miscellaneous Plastics Products - Average
9015	Oil and Gas Production - Average
9016	Textile Products - Average
9017	Drycleaning/Degreasing - Average
9021	Surface Coating Operations - Average
9022	Solid Waste Disposal - Average
9023	Thinning Solvents - Average
9024	Petroleum Product Storage - Average
9025	Bulk Terminals - Petroleum Storage Tanks - Average
9026	Printing/Publishing - Average
9027	Transportation and Marketing of Petroleum Products - Average
9028	Organic Chemical Storage - Average
9029	Organic Chemical Storage - Fixed Roof Tanks - Alcohols - Average
9030	Organic Chemical Storage - Fixed Roof Tanks - Alkanes - Average
9031	Organic Chemical Storage - Fixed Roof Tanks - lkenes - Average
9032	Organic Chemical Storage - Fixed Roof Tanks - Amines - Average
9033	Organic Chemical Storage - Fixed Roof Tanks - Aromatics - Average

Profile Number	Profile Name
9034	Organic Chemical Storage - Fixed Roof Tanks - Carboxylic Acids - Average
9035	Organic Chemical Storage - Fixed Roof Tanks - Esters - Average
9036	Organic Chemical Storage - Fixed Roof Tanks - Glycol Ethers - Average
9037	Organic Chemical Storage - Fixed Roof Tanks - Glycols - Average
9038	Organic Chemical Storage - Fixed Roof Tanks - Halogenated Organics - Average
9039	Organic Chemical Storage - Fixed Roof Tanks - Isocyanates - Average
9040	Organic Chemical Storage - Fixed Roof Tanks - Ketones - Average
9041	Organic Chemical Storage - Floating Roof Tanks - Aldehydes - Average
9042	Organic Chemical Storage - Floating Roof Tanks - Alkanes - Average
9043	Organic Chemical Storage - Floating Roof Tanks - Ethers - Average
9044	Organic Chemical Storage - Floating Roof Tanks - Halogenated Organics - Average
9046	Organic Chemical Storage - Pressure Tanks - Alkenes - Average
9047	Organic Solvent Evaporation - Miscellaneous - Average

```
VOC Profile Speciation Report
--------------------------------------------------------------------------------
Profile Name   : External Combustion Boilers - Industrial - Average
Profile Number : 9001
Data Quality   : E
--------------------------------------------------------------------------------
Control Device : Not Applicable
Reference(s)   : 93
Data Source    : Average profile developed from original profiles
                 representing the source category 102XXXXX.

SCC Assignments:

--------------------------------------------------------------------------------
Saroad       CAS Number      Name                              Spec_MW  Spec_WT   Peak
--------------------------------------------------------------------------------
43105                        ISOMERS OF HEXANE                   86.17     0.89
43106                        ISOMERS OF HEPTANE                 100.20     0.37
43107                        ISOMERS OF OCTANE                  114.23     0.67
43122                        ISOMERS OF PENTANE                  72.15     2.07
43140                        C7-C16 PARAFFINS                   156.31     5.62
43201           74-82-8      METHANE                             16.04    25.35
43202           74-84-0      ETHANE                              30.07    11.41
43203           74-85-1      ETHYLENE                            28.05     1.67
43204           74-98-6      PROPANE                             44.09     4.19
43205          115-07-1      PROPENE                             42.08     2.65
43206           74-86-2      ACETYLENE                           26.04     2.32
43212          106-97-8      N-BUTANE                            58.12     9.24
43213          106-98-9      BUTENE                              56.10     0.87
43214           75-28-5      ISO-BUTANE                          58.12     1.64
43215          115-11-7      ISOBUTYLENE                         56.10     0.00
43220          109-66-0      N-PENTANE                           72.15     1.98
43221           78-78-4      ISO PENTANE                         72.15     0.18
43231          110-54-3      HEXANE                              86.17     3.37
43232          142-82-5      HEPTANE                            100.20     0.04
43247          108-08-7      2,4-DIMETHYLPENTANE                100.20     0.00
43248          110-82-7      CYCLOHEXANE                         84.16     0.14
43262           96-37-7      METHYLCYCLOPENTANE                  84.16     0.41
43263          591-76-4      2-METHYL HEXANE                    100.20     0.00
43502           50-00-0      FORMALDEHYDE                        30.03    15.19
43551           67-64-1      ACETONE                             58.08     4.00
45201           71-43-2      BENZENE                             78.11     1.38
45202          108-88-3      TOLUENE                             92.13     1.48
45203          100-41-4      ETHYLBENZENE                       106.16     0.81
45204           95-47-6      O-XYLENE                           106.16     0.37
90010                        M-XYLENE AND P-XYLENE              106.16     1.68
--------------------------------------------------------------------------------
TOTAL                                                                     99.99
================================================================================
```

VOC Profile Speciation Report

Profile Name : Internal Combustion - Average
Profile Number : 9002
Data Quality : E

Control Device : Not Applicable
Reference(s) : 93
Data Source : Average profile developed from original profiles representing source category 2XXXXXXX.

SCC Assignments:

Saroad	CAS Number	Name	Spec_MW	Spec_WT	Peak
43105		ISOMERS OF HEXANE	86.17	0.01	
43106		ISOMERS OF HEPTANE	100.20	0.01	
43107		ISOMERS OF OCTANE	114.23	0.01	
43108		ISOMERS OF NONANE	128.25	0.00	
43109		ISOMERS OF DECANE	142.28	0.01	
43120		ISOMERS OF BUTENE	56.10	0.07	
43122		ISOMERS OF PENTANE	72.15	0.03	
43124		C9 OLEFINS	126.24	0.01	
43125		C10 OLEFINS	140.27	0.01	
43201	74-82-8	METHANE	16.04	42.46	
43202	74-84-0	ETHANE	30.07	4.90	
43203	74-85-1	ETHYLENE	28.05	14.51	
43204	74-98-6	PROPANE	44.09	0.73	
43205	115-07-1	PROPENE	42.08	9.07	
43206	74-86-2	ACETYLENE	26.04	5.73	
43212	106-97-8	N-BUTANE	58.12	0.25	
43213	106-98-9	BUTENE	56.10	6.70	
43214	75-28-5	ISO-BUTANE	58.12	0.11	
43215	115-11-7	ISOBUTYLENE	56.10	0.01	
43216	624-64-6	T-2-BUTENE	56.11	0.03	
43217	590-18-1	CIS-2-BUTENE	56.11	0.01	
43218	106-99-0	1,3-BUTADIENE	54.09	3.50	
43220	109-66-0	N-PENTANE	72.15	0.03	
43224	109-67-1	1-PENTENE	70.13	0.00	
43226	646-04-8	TRANS-2-PENTENE	70.13	0.00	
43228	513-35-9	2-METHYL-2-BUTENE	70.13	0.00	
43230	96-14-0	3-METHYL PENTANE	86.17	0.01	
43231	110-54-3	HEXANE	86.17	0.01	
43232	142-82-5	HEPTANE	100.20	0.01	
43233	111-65-9	OCTANE	114.23	0.01	
43235	111-84-2	NONANE	128.25	0.00	
43238	124-18-5	N-DECANE	142.28	0.00	
43241	1120-21-4	N-UNDECANE	156.31	0.00	
43242	287-92-3	CYCLOPENTANE	70.14	0.01	
43247	108-08-7	2,4-DIMETHYLPENTANE	100.20	0.00	
43248	110-82-7	CYCLOHEXANE	84.16	0.00	
43261	108-87-2	METHYLCYCLOHEXANE	98.21	0.01	
43262	96-37-7	METHYLCYCLOPENTANE	84.16	0.01	
43264		HEPTENE	98.18	0.00	
43265	111-66-0	OCTENE	112.21	0.00	
43269	124-11-8	1-NONENE	126.24	0.00	

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VOC Profile Speciation Report  -  continued (profile 9002)
--------------------------------------------------------------------------------
Saroad       CAS Number      Name                              Spec_MW  Spec_WT  Peak
--------------------------------------------------------------------------------
43291           75-83-2      2,2-DIMETHYLBUTANE                  86.17     0.00
43295          589-34-4      3-METHYLHEXANE                     100.20     0.00
43298                        3-METHYLHEPTANE                    114.23     0.01
43502           50-00-0      FORMALDEHYDE                        30.03     7.70
43503           75-07-0      ACETALDEHYDE                        44.05     0.01
43511           78-84-2      ISOBUTYRALDEHYDE                    72.11     0.01
45102         1330-20-7      ISOMERS OF XYLENE                  106.16     0.01
45109                        C3/C4/C5 ALKYLBENZENES             134.21     0.00
45110                        C10 AROMATIC                       134.22     0.00
45201           71-43-2      BENZENE                             78.11     3.98
45202          108-88-3      TOLUENE                             92.13     0.01
45203          100-41-4      ETHYLBENZENE                       106.16     0.00
45204           95-47-6      O-XYLENE                           106.16     0.00
45205          108-38-3      M-XYLENE                           106.16     0.00
45207          108-67-8      1,3,5-TRIMETHYLBENZENE             120.19     0.01
45208           95-63-6      1,2,4-TRIMETHYLBENZENE             120.19     0.00
45211          611-14-3      O-ETHYLTOLUENE                     120.19     0.00
45212          620-14-4      M-ETHYLTOLUENE                     120.19     0.00
45225          526-73-8      1,2,3-TRIMETHYLBENZENE             120.19     0.00
98040          763-29-1      2-METHYL-1-PENTENE                  84.16     0.01
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TOTAL                                                                    100.02
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VOC Profile Speciation Report
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Profile Name   : Industrial Processes - Average
Profile Number : 9003
Data Quality   : E
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Control Device : Not Applicable
Reference(s)   : 93
Data Source    : Average profile developed from original profiles repre-
                 senting the source category  3XXXXXXX.

SCC Assignments:

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Saroad      CAS Number      Name                                Spec_MW   Spec_WT   Peak
-------------------------------------------------------------------------------------
43105                       ISOMERS OF HEXANE                     86.17      1.11
43106                       ISOMERS OF HEPTANE                   100.20      0.39
43107                       ISOMERS OF OCTANE                    114.23      0.29
43108                       ISOMERS OF NONANE                    128.25      0.04
43109                       ISOMERS OF DECANE                    142.28      0.02
43111                       ISOMERS OF DODECANE                  170.32      0.10
43113                       ISOMERS OF TETRADECANE               198.38      0.03
43115                       C-7 CYCLOPARAFFINS                    98.19      1.87
43116                       C-8 CYCLOPARAFFINS                   112.23      0.14
43117                       C-9 CYCLOPARAFFINS                   126.26      0.02
43118       64475-85-0      MINERAL SPIRITS                      114.00      0.41
43120                       ISOMERS OF BUTENE                     56.10      0.09
43121                       ISOMERS OF PENTENE                    70.13      0.01
43122                       ISOMERS OF PENTANE                    72.15      1.75
43130                       C5 SUBSTITUTED CYCLOHEXANE           154.30      0.04
43131                       C6 SUBSTITUTED CYCLOHEXANE           168.32      0.03
43132                       ALIPHATICS                           100.00      0.20
43133                       PARAFFINS (C16-C34)                  352.43      0.04
43134                       PARAFFINS/OLEFINS (C12-C16)          197.38      0.00
43201          74-82-8      METHANE                               16.04      9.02
43202          74-84-0      ETHANE                                30.07      1.80
43203          74-85-1      ETHYLENE                              28.05      5.94
43204          74-98-6      PROPANE                               44.09      4.85
43205         115-07-1      PROPENE                               42.08      2.09
43206          74-86-2      ACETYLENF                             26.04      1.59
43212         106-97-8      N-BUTANE                              58.12      2.49
43213         106-98-9      BUTENE                                56.10      0.45
43214          75-28-5      ISO-BUTANE                            58.12      0.53
43218         106-99-0      1,3-BUTADIENE                         54.09      0.61
43220         109-66-0      N-PENTANE                             72.15      1.01
43221          78-78-4      ISO PENTANE                           72.15      0.03
43224         109-67-1      1-PENTENE                             70.13      0.04
43231         110-54-3      HEXANE                                86.17      1.14
43232         142-82-5      HEPTANE                              100.20      0.65
43233         111-65-9      OCTANE                               114.23      0.17
43235         111-84-2      NONANE                               128.25      0.05
43238         124-18-5      N-DECANE                             142.28      0.09
43241        1120-21-4      N-UNDECANE                           156.31      0.08
43242         287-92-3      CYCLOPENTANE                          70.14      0.03
43245         592-41-6      1-HEXENE                              84.16      0.06
43248         110-82-7      CYCLOHEXANE                           84.16      0.77
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VOC Profile Speciation Report - continued (profile 9003)

Saroad	CAS Number	Name	Spec_MW	Spec_WT	Peak
43255	112-40-3	N-DODECANE	170.33	0.19	
43256	80-56-8	A-PINENE	136.24	0.53	
43257	127-91-3	B-PINENE	136.24	0.35	
43262	96-37-7	METHYLCYCLOPENTANE	84.16	0.52	
43301	67-56-1	METHYL ALCOHOL	32.04	1.95	
43302	64-17-5	ETHYL ALCOHOL	46.07	1.12	
43304	67-63-0	ISO-PROPYL ALCOHOL	60.09	0.41	
43305	71-36-3	N-BUTYL ALCOHOL	74.12	0.75	
43306	78-83-1	ISOBUTYL ALCOHOL	74.12	0.00	
43314	78-92-2	S-BUTYL ALCOHOL	74.12	1.01	
43317	108-93-0	CYCLOHEXANOL	100.16	0.10	
43318	104-76-7	2-ETHYL HEXANOL	130.23	0.00	
43330	123-51-3	ISOAMYL ALCOHOL	88.15	0.00	
43350	115-10-6	DIMETHYLETHER	46.07	2.82	
43351	60-29-7	ETHYL ETHER	74.12	0.38	
43367	111-46-6	GLYCOL ETHER	106.14	0.03	
43403	64-18-6	FORMIC ACID	46.03	0.07	
43404	64-19-7	ACETIC ACID	60.05	0.98	
43408	57-10-3	PALMITIC ACID	256.43	0.40	
43430	107-31-3	METHYL FORMATE	60.05	0.66	
43432	79-20-9	METHYLACETATE	74.08	0.92	
43433	141-78-6	ETHYL ACETATE	88.10	0.00	
43435	138-22-7	N-BUTYL ACETATE	116.16	0.04	
43438	140-88-5	ETHYL ACRYLATE	100.11	0.36	
43440	141-32-2	BUTYL ACRYLATE	128.17	0.15	
43441	80-62-6	METHYL METHACRYLATE	100.13	0.29	
43453	108-05-4	VINYL ACETATE	86.09	1.64	
43454	112-39-0	METHYL PALMITATE	270.46	0.17	
43455	124-10-7	METHYL MYRISTATE	242.41	0.06	
43456	112-61-8	METHYL STEARATE	298.52	0.22	
43457	109-87-5	METHYLAL	76.11	0.25	
43460		METHYL C11 ESTER	214.35	0.00	
43461		METHYL C12 ESTER	228.37	0.00	
43462		METHYL C13 ESTER	242.40	0.00	
43463		METHYL C14 ESTER	256.43	0.00	
43464		METHYL C15 ESTER	270.45	0.00	
43465		METHYL C19 ESTER	326.56	0.00	
43466		METHYL C20 ESTER	340.59	0.00	
43467		C4 SUBSTITUTED CYCLOHEXANONE	154.26	0.02	
43470	111-82-0	METHYL DODECANOATE	214.35	0.00	
43502	50-00-0	FORMALDEHYDE	30.03	1.82	
43503	75-07-0	ACETALDEHYDE	44.05	1.24	
43505	107-02-8	ACROLEIN	56.07	1.20	
43510	123-72-8	BUTYRALDEHYDE	72.12	0.01	
43520		TOTAL C2-C5 ALDEHYDES	72.12	0.24	
43551	67-64-1	ACETONE	58.08	1.82	
43552	78-93-3	METHYL ETHYL KETONE	72.10	1.27	
43560	108-10-1	METHYL ISOBUTYL KETONE	100.16	0.17	
43561	108-94-1	CYCLOHEXANONE	98.15	0.10	
43601	75-21-8	ETHYLENE OXIDE	44.05	0.05	
43602	75-56-9	PROPYLENE OXIDE	58.08	0.01	
43603	108-31-6	MALEIC ANHYDRIDE	98.06	0.20	

VOC Profile Speciation Report - continued (profile 9003)

Saroad	CAS Number	Name	Spec_MW	Spec_WT	Peak
43604	108-24-7	ACETIC ANHYDRIDE	102.09	0.06	
43650		OXYGENATES	86.00	0.01	
43704	107-13-1	ACRYLONITRILE	53.06	0.64	
43776	124-09-4	HEXAMETHYLENEDIAMINE	116.20	1.01	
43780		DIMETHYL ALKYL AMINES	59.11	0.00	
43801	74-87-3	METHYL CHLORIDE	50.49	0.01	
43803	67-66-3	CHLOROFORM	119.39	0.03	
43804	56-23-5	CARBON TETRACHLORIDE	153.84	0.20	
43805	74-95-3	METHYLENE BROMIDE	173.85	0.10	
43811	75-69-4	TRICHLOROFLUOROMETHANE	137.38	0.77	
43812	75-00-3	ETHYL CHLORIDE	64.52	0.85	
43815	107-06-2	ETHYLENE DICHLORIDE	99.00	1.68	
43821	76-13-1	TRICHLOROTRIFLUOROETHANE	187.38	0.06	
43822		TRIMETHYLFLUOROSILANE	92.00	1.75	
43823	75-71-8	DICHLORODIFLUOROMETHANE	120.91	1.06	
43838	26638-19-7	PROPYLENE DICHLORIDE	112.99	0.06	
43839	75-73-0	TETRAFLUOROMETHANE	88.01	0.10	
43840	75-45-6	CHLORODIFLUOROMETHANE	86.47	0.48	
43841	76-14-2	DICHLOROTETRAFLUORETHANE	170.92	0.04	
43842	76-15-3	CHLOROPENTAFLUOROETHANE	154.47	0.05	
43843	76-16-4	HEXAFLUOROETHANE	138.01	1.20	
43844	75-46-7	TRIFLUOROMETHANE	70.01	0.91	
43845	75-72-9	CHLOROTRIFLUOROMETHANE	104.46	0.16	
43860	75-01-4	VINYL CHLORIDE	62.50	1.07	
43862	126-99-8	CHLOROPRENE	88.54	1.01	
43933	433-58-1	CARBONYL SULFIDE	60.08	0.09	
43934	75-15-0	CARBON SULFIDE	76.13	0.27	
43950	556-67-2	OCTAMETHYLCYCLOTETRASILOXANE	296.62	0.02	
43951		SILOXANE	76.08	0.01	
45102	1330-20-7	ISOMERS OF XYLENE	106.16	0.18	
45106		ISOMERS OF DIETHYLBENZENE	134.21	0.04	
45107	25551-13-7	TRIMETHYLBENZENE	120.19	0.09	
45109		C3/C4/C5 ALKYLBENZENES	134.21	0.06	
45201	71-43-2	BENZENE	78.11	7.05	
45202	108-88-3	TOLUENE	92.13	1.49	
45203	100-41-4	ETHYLBENZENE	106.16	0.43	
45204	95-47-6	O-XYLENE	106.16	0.16	
45205	108-38-3	M-XYLENE	106.16	0.07	
45206	106-42-3	P-XYLENE	106.16	0.03	
45210	98-82-8	CUMENE (ISOPROPYL BENZENE)	120.20	0.00	
45220	100-42-5	STYRENE	104.14	3.01	
45226	92-52-4	BIPHENYL	154.21	0.03	
45227		METHYL BIPHENYL	168.24	0.00	
45228		ETHYL STYRENE	132.21	0.06	
45229	1321-74-0	DIVINYL BENZENE	130.20	0.01	
45230		DI(ETHYLPHENYL) ETHANE	238.37	0.00	
45232	103-29-7	DIPHENYL ETHANE	182.27	0.01	
45233		ETHYL-PHENYL-PHENYL-ETHANE	210.32	0.02	
45300	108-95-2	PHENOL	94.11	1.09	
45310		C8 PHENOLS	122.16	0.00	
45311		C9 PHENOLS	136.19	0.00	
45401		XYLENE BASE ACIDS	230.00	0.01	

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VOC Profile Speciation Report  -  continued (profile 9003)
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Saroad     CAS Number      Name                               Spec_MW   Spec_WT   Peak
-----------------------------------------------------------------------------------------
45402         65-85-0      BENZOIC ACID                        122.13      0.12
45403        100-21-0      TEREPHTHALIC ACID                   166.14      0.01
45450        120-61-6      DIMETHYL TEREPHTHALATE              194.19      0.00
45451        131-11-3      DIMETHYL PHTHALATE                  194.19      0.12
45452         84-74-2      DIBUTYL PHTHALATE                   278.35      0.01
45454        131-16-8      DIPROPYL PHTHALATE                  250.30      0.00
45455        136-60-7      BUTYL BENZOATE                      178.23      0.43
45470                      DI-C8 ALKYL PHTHALATE               390.56      0.01
45501        100-52-7      BENZALDEHYDE                        106.13      0.05
45601         85-44-9      PHTHALIC ANHYDRIDE                  148.12      0.61
45604         98-00-0      FURFURYL ALCOHOL                     98.10      0.00
45701         62-53-3      ANILINE                              93.13      0.72
45702         98-95-3      NITROBENZENE                        123.11      0.00
45703                      2,2 DICHLORONITROANILINE            207.02      0.04
45704       1817-73-8      BROMODINITROANILINE                 262.03      0.00
45705                      BROMODINITROBENZENE                 247.02      0.02
45730        101-68-8      METHYLENE(b)4-PHENYLISOCYANATE      250.27      0.00
45740                      TOTAL AROMATIC AMINES                93.13      0.07
45801        108-90-7      CHLOROBENZENE                       112.56      2.01
45805         95-50-1      O-DICHLOROBENZENE                   147.01      0.10
45806        541-73-1      M-DICHLOROBENZENE                   147.01      0.01
45807        106-46-7      P-DICHLOROBENZENE                   147.01      2.15
45808       2531-22-6      DICHLOROBENZENES                    147.01      0.06
45830                      TRICHLOROBENZENES                   181.45      0.03
45831                      TETRACHLOROBENZENES                 215.90      0.00
46102         84-65-1      ANTHRAQUINONE                       208.23      0.03
46103         82-45-1      AMINOANTHRAQUINONE                  223.23      0.00
46111        101-77-9      4,4-METHYLENE DIANILINE             198.17      0.00
46112        103-71-9      PHENYL ISOCYANATE                   119.13      0.24
46114        100-61-8      4-METHYLANILINE                     107.17      0.06
46701         91-12-3      NAPTHALENE                          128.17      0.09
46702                      METHYL NAPHTHALENES                 142.20      0.11
46703      28804-88-8      DIMETHYL NAPTHALENE                 156.23      0.01
46711                      C2 ALKYL INDAN                      146.23      0.11
90050       5794-03-6      CAMPHENE                            136.24      0.01
90051        123-35-3      MYRCENE                             136.24      0.02
90052                      B-PHELLANDRENE                      136.24      0.02
90053       5989-27-5      D-LIMONENE                          136.24      0.08
98063                      N-PENTYLCYCLOHEXANE                 154.30      0.02
98083                      TRIMETHYLDECENE                     182.35      0.06
99933                      DENATURANT                           32.04      0.29
99999                      UNIDENTIFIED                         86.00      0.20
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TOTAL                                                                    100.05
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VOC Profile Speciation Report

Profile Name : Chemical Manufacturing - Average
Profile Number : 9004
Data Quality : E

Control Device : Not Applicable
Reference(s) : 93
Data Source : Average profile developed from original profiles representing the source category 301XXXXX

SCC Assignments: 30113799

Saroad	CAS Number	Name	Spec_MW	Spec_WT	Peak
43105		ISOMERS OF HEXANE	86.17	0.12	
43115		C-7 CYCLOPARAFFINS	98.19	1.75	
43116		C-8 CYCLOPARAFFINS	112.23	0.03	
43118	64475-85-0	MINERAL SPIRITS	114.00	0.61	
43120		ISOMERS OF BUTENE	56.10	0.13	
43122		ISOMERS OF PENTANE	72.15	0.05	
43201	74-82-8	METHANE	16.04	5.07	
43202	74-84-0	ETHANE	30.07	1.38	
43203	74-85-1	ETHYLENE	28.05	8.29	
43204	74-98-6	PROPANE	44.09	3.45	
43205	115-07-1	PROPENE	42.08	2.67	
43206	74-86-2	ACETYLENE	26.04	2.14	
43212	106-97-8	N-BUTANE	58.12	1.34	
43213	106-98-9	BUTENE	56.10	0.37	
43214	75-28-5	ISO-BUTANE	58.12	0.07	
43220	109-66-0	N-PENTANE	72.15	0.24	
43221	78-78-4	ISO PENTANE	72.15	0.05	
43224	109-67-1	1-PENTENE	70.13	0.02	
43231	110-54-3	HEXANE	86.17	0.06	
43245	592-41-6	1-HEXENE	84.16	0.08	
43248	110-82-7	CYCLOHEXANE	84.16	0.86	
43262	96-37-7	METHYLCYCLOPENTANE	84.16	0.00	
43301	67-56-1	METHYL ALCOHOL	32.04	2.92	
43302	64-17-5	ETHYL ALCOHOL	46.07	0.18	
43304	67-63-0	ISO-PROPYL ALCOHOL	60.09	0.61	
43305	71-36-3	N-BUTYL ALCOHOL	74.12	1.12	
43314	78-92-2	S-BUTYL ALCOHOL	74.12	1.52	
43317	108-93-0	CYCLOHEXANOL	100.16	0.16	
43350	115-10-6	DIMETHYLETHER	46.07	4.22	
43351	60-29-7	ETHYL ETHER	74.12	0.57	
43367	111-46-6	GLYCOL ETHER	106.14	0.05	
43403	64-18-6	FORMIC ACID	46.03	0.10	
43404	64-19-7	ACETIC ACID	60.05	1.47	
43430	107-31-3	METHYL FORMATE	60.05	0.99	
43432	79-20-9	METHYLACETATE	74.08	1.38	
43435	138-22-7	N-BUTYL ACETATE	116.16	0.06	
43438	140-88-5	ETHYL ACRYLATE	100.11	0.54	
43440	141-32-2	BUTYL ACRYLATE	128.17	0.22	
43441	80-62-6	METHYL METHACRYLATE	100.13	0.43	
43453	108-05-4	VINYL ACETATE	86.09	2.46	
43457	109-87-5	METHYLAL	76.11	0.38	

VOC Profile Speciation Report - continued (profile 9004)

Saroad	CAS Number	Name	Spec_MW	Spec_WT	Peak
43502	50-00-0	FORMALDEHYDE	30.03	0.03	
43503	75-07-0	ACETALDEHYDE	44.05	1.86	
43505	107-02-8	ACROLEIN	56.07	1.79	
43510	123-72-8	BUTYRALDEHYDE	72.12	0.01	
43551	67-64-1	ACETONE	58.08	2.31	
43552	78-93-3	METHYL ETHYL KETONE	72.10	1.91	
43560	108-10-1	METHYL ISOBUTYL KETONE	100.16	0.25	
43561	108-94-1	CYCLOHEXANONE	98.15	0.16	
43601	75-21-8	ETHYLENE OXIDE	44.05	0.07	
43602	75-56-9	PROPYLENE OXIDE	58.08	0.02	
43603	108-31-6	MALEIC ANHYDRIDE	98.06	0.30	
43604	108-24-7	ACETIC ANHYDRIDE	102.09	0.09	
43704	107-13-1	ACRYLONITRILE	53.06	0.95	
43776	124-09-4	HEXAMETHYLENEDIAMINE	116.20	1.52	
43801	74-87-3	METHYL CHLORIDE	50.49	0.01	
43803	67-66-3	CHLOROFORM	119.39	0.04	
43804	56-23-5	CARBON TETRACHLORIDE	153.84	0.30	
43805	74-95-3	METHYLENE BROMIDE	173.85	0.15	
43811	75-69-4	TRICHLOROFLUOROMETHANE	137.38	1.15	
43812	75-00-3	ETHYL CHLORIDE	64.52	1.28	
43815	107-06-2	ETHYLENE DICHLORIDE	99.00	2.52	
43821	76-13-1	TRICHLOROTRIFLUOROETHANE	187.38	0.09	
43823	75-71-8	DICHLORODIFLUOROMETHANE	120.91	1.59	
43838	26638-19-7	PROPYLENE DICHLORIDE	112.99	0.08	
43839	75-73-0	TETRAFLUOROMETHANE	88.01	0.15	
43840	75-45-6	CHLORODIFLUOROMETHANE	86.47	0.72	
43841	76-14-2	DICHLOROTETRAFLUORETHANE	170.92	0.07	
43842	76-15-3	CHLOROPENTAFLUOROETHANE	154.47	0.07	
43843	76-16-4	HEXAFLUOROETHANE	138.01	1.80	
43844	75-46-7	TRIFLUOROMETHANE	70.01	1.36	
43845	75-72-9	CHLOROTRIFLUOROMETHANE	104.46	0.24	
43860	75-01-4	VINYL CHLORIDE	62.50	1.61	
43862	126-99-8	CHLOROPRENE	88.54	1.52	
43933	433-58-1	CARBONYL SULFIDE	60.08	0.13	
43934	75-15-0	CARBON SULFIDE	76.13	0.40	
45102	1330-20-7	ISOMERS OF XYLENE	106.16	0.25	
45106		ISOMERS OF DIETHYLBENZENE	134.21	0.05	
45201	71-43-2	BENZENE	78.11	8.49	
45202	108-88-3	TOLUENE	92.13	1.80	
45203	100-41-4	ETHYLBENZENE	106.16	0.65	
45204	95-47-6	O-XYLENE	106.16	0.16	
45206	106-42-3	P-XYLENE	106.16	0.05	
45210	98-82-8	CUMENE (ISOPROPYL BENZENE)	120.20	0.00	
45220	100-42-5	STYRENE	104.14	3.91	
45300	108-95-2	PHENOL	94.11	1.55	
45401		XYLENE BASE ACIDS	230.00	0.02	
45402	65-85-0	BENZOIC ACID	122.13	0.15	
45403	100-21-0	TEREPHTHALIC ACID	166.14	0.02	
45450	120-61-6	DIMETHYL TEREPHTHALATE	194.19	0.00	
45501	100-52-7	BENZALDEHYDE	106.13	0.07	
45601	85-44-9	PHTHALIC ANHYDRIDE	148.12	0.91	
45702	98-95-3	NITROBENZENE	123.11	0.00	

VOC Profile Speciation Report - continued (profile 9004)

Saroad	CAS Number	Name	Spec_MW	Spec_WT	Peak
45801	108-90-7	CHLOROBENZENE	112.56	3.02	
45805	95-50-1	O-DICHLOROBENZENE	147.01	0.16	
45806	541-73-1	M-DICHLOROBENZENE	147.01	0.01	
45807	106-46-7	P-DICHLOROBENZENE	147.01	3.22	
45808	2531-22-6	DICHLOROBENZENES	147.01	0.09	
99933		DENATURANT	32.04	0.44	
99999		UNIDENTIFIED	86.00	0.29	
TOTAL				100.02	

```
VOC Profile Speciation Report
-----------------------------------------------------------------------------------------
Profile Name   : Plastics Production - Average
Profile Number : 9005
Data Quality   : E
-----------------------------------------------------------------------------------------
Control Device : Not Applicable
Reference(s)   : 93
Data Source    : Average profile developed from original profiles repre-
                 senting the source category 301018XX.

SCC Assignments:

-----------------------------------------------------------------------------------------
Saroad       CAS Number       Name                                Spec_MW   Spec_WT   Peak
-----------------------------------------------------------------------------------------
43205          115-07-1       PROPENE                               42.08     20.00
43704          107-13-1       ACRYLONITRILE                         53.06     12.00
43860           75-01-4       VINYL CHLORIDE                        62.50     20.00
45203          100-41-4       ETHYLBENZENE                         106.16      2.00
45220          100-42-5       STYRENE                              104.14     46.00
-----------------------------------------------------------------------------------------
TOTAL                                                                        100.00
=========================================================================================
VOC Profile Speciation Report
------------------------------------------------------------------------------
Profile Name   : Synthetic Organic Fiber Production - Average
Profile Number : 9006
Data Quality   : E
------------------------------------------------------------------------------
Control Device : Not Applicable
Reference(s)   : 93
Data Source    : Average profile developed from original profiles repre-
                 senting the source category 301024XX

SCC Assignments:

------------------------------------------------------------------------------
Saroad    CAS Number    Name                          Spec_MW  Spec_WT   Peak
------------------------------------------------------------------------------
43776      124-09-4     HEXAMETHYLENEDIAMINE          116.20    100.00
------------------------------------------------------------------------------
TOTAL                                                           100.00
==============================================================================
VOC Profile Speciation Report
-------------------------------------------------------------------------------
Profile Name   : Alcohols Production - Average
Profile Number : 9007
Data Quality   : E
-------------------------------------------------------------------------------
Control Device : Not Applicable
Reference(s)   : 93
Data Source    : Average profile developed from original profiles repre-
                 senting the source category  301250XX.

SCC Assignments:

-------------------------------------------------------------------------------
Saroad       CAS Number       Name                         Spec_MW  Spec_WT  Peak
-------------------------------------------------------------------------------
43201           74-82-8       METHANE                        16.04    43.35
43301           67-56-1       METHYL ALCOHOL                 32.04     1.64
43350          115-10-6       DIMETHYLETHER                  46.07    55.01
-------------------------------------------------------------------------------
TOTAL                                                                100.00
===============================================================================
VOC Profile Speciation Report
--------------------------------------------------------------------------------
Profile Name   : Food and Agriculture - Average
Profile Number : 9008
Data Quality   : E
--------------------------------------------------------------------------------
Control Device : NOT APPLICABLE
Reference(s)   : 93
Data Source    : Average profile developed from original profiles repre-
                 senting the source category 302XXXXX.

SCC Assignments:

--------------------------------------------------------------------------------
Saroad      CAS Number      Name                            Spec_MW   Spec_WT   Peak
--------------------------------------------------------------------------------
43302          64-17-5      ETHYL ALCOHOL                     46.07     99.56
43306          78-83-1      ISOBUTYL ALCOHOL                  74.12      0.03
43330         123-51-3      ISOAMYL ALCOHOL                   88.15      0.09
43433         141-78-6      ETHYL ACETATE                     88.10      0.32
--------------------------------------------------------------------------------
TOTAL                                                                  100.00
================================================================================
```

VOC Profile Speciation Report

Profile Name : Primary Metal Production - Average
Profile Number : 9009
Data Quality : E

Control Device : Not Applicable
Reference(s) : 93
Data Source : Average profile developed from original profiles representing the source category 303XXXXX.

SCC Assignments:

Saroad	CAS Number	Name	Spec_MW	Spec_WT	Peak
43201	74-82-8	METHANE	16.04	29.10	
43202	74-84-0	ETHANE	30.07	2.20	
43203	74-85-1	ETHYLENE	28.05	6.72	
43204	74-98-6	PROPANE	44.09	8.08	
43205	115-07-1	PROPENE	42.08	0.98	
43206	74-86-2	ACETYLENE	26.04	3.20	
43213	106-98-9	BUTENE	56.10	0.02	
43218	106-99-0	1,3-BUTADIENE	54.09	0.10	
43231	110-54-3	HEXANE	86.17	1.40	
43232	142-82-5	HEPTANE	100.20	7.16	
43822		TRIMETHYLFLUOROSILANE	92.00	34.64	
45201	71-43-2	BENZENE	78.11	5.54	
45202	108-88-3	TOLUENE	92.13	0.86	
TOTAL				100.00	

VOC Profile Speciation Report

Profile Name : Secondary Metal Production - Average
Profile Number : 9010
Data Quality : E

Control Device : Not Applicable
Reference(s) : 93
Data Source : Average profile developed from original profiles representing the source category 304XXXXX.

SCC Assignments:

Saroad	CAS Number	Name	Spec_MW	Spec_WT	Peak
43502	50-00-0	FORMALDEHYDE	30.03	0.35	
43505	107-02-8	ACROLEIN	56.07	0.17	
43520		TOTAL C2-C5 ALDEHYDES	72.12	12.10	
45201	71-43-2	BENZENE	78.11	17.35	
45202	108-88-3	TOLUENE	92.13	7.05	
45204	95-47-6	O-XYLENE	106.16	2.75	
45205	108-38-3	M-XYLENE	106.16	3.25	
45300	108-95-2	PHENOL	94.11	3.20	
45604	98-00-0	FURFURYL ALCOHOL	98.10	0.04	
45701	62-53-3	ANILINE	93.13	35.42	
45730	101-68-8	METHYLENE(b)4-PHENYLISOCYANATE	250.27	0.01	
45740		TOTAL AROMATIC AMINES	93.13	3.71	
46111	101-77-9	4,4-METHYLENE DIANILINE	198.17	0.00	
46112	103-71-9	PHENYL ISOCYANATE	119.13	11.80	
46114	100-61-8	4-METHYLANILINE	107.17	2.75	
46701	91-12-3	NAPTHALENE	128.17	0.04	
TOTAL				99.99	

VOC Profile Speciation Report

Profile Name : Mineral Products - Average
Profile Number : 9011
Data Quality : E

Control Device : Not Applicable
Reference(s) : 93
Data Source : Average profile developed from original profiles representing the source category 305XXXXX.

SCC Assignments:

Saroad	CAS Number	Name	Spec_MW	Spec_WT	Peak
43105		ISOMERS OF HEXANE	86.17	4.90	
43106		ISOMERS OF HEPTANE	100.20	2.20	
43107		ISOMERS OF OCTANE	114.23	1.68	
43111		ISOMERS OF DODECANE	170.32	1.92	
43113		ISOMERS OF TETRADECANE	198.38	0.62	
43115		C-7 CYCLOPARAFFINS	98.19	1.32	
43116		C-8 CYCLOPARAFFINS	112.23	0.08	
43117		C-9 CYCLOPARAFFINS	126.26	0.30	
43121		ISOMERS OF PENTENE	70.13	0.10	
43122		ISOMERS OF PENTANE	72.15	3.16	
43130		C5 SUBSTITUTED CYCLOHEXANE	154.30	0.83	
43131		C6 SUBSTITUTED CYCLOHEXANE	168.32	0.62	
43201	74-82-8	METHANE	16.04	18.60	
43202	74-84-0	ETHANE	30.07	2.20	
43203	74-85-1	ETHYLENE	28.05	0.86	
43204	74-98-6	PROPANE	44.09	6.54	
43205	115-07-1	PROPENE	42.08	1.18	
43212	106-97-8	N-BUTANE	58.12	9.74	
43213	106-98-9	BUTENE	56.10	2.58	
43214	75-28-5	ISO-BUTANE	58.12	3.98	
43220	109-66-0	N-PENTANE	72.15	7.12	
43224	109-67-1	1-PENTENE	70.13	0.64	
43231	110-54-3	HEXANE	86.17	3.14	
43232	142-82-5	HEPTANE	100.20	3.20	
43233	111-65-9	OCTANE	114.23	0.54	
43238	124-18-5	N-DECANE	142.28	0.57	
43241	1120-21-4	N-UNDECANE	156.31	1.56	
43242	287-92-3	CYCLOPENTANE	70.14	0.50	
43248	110-82-7	CYCLOHEXANE	84.16	0.20	
43255	112-40-3	N-DODECANE	170.33	3.71	
43467		C4 SUBSTITUTED CYCLOHEXANONE	154.26	0.48	
43502	50-00-0	FORMALDEHYDE	30.03	1.60	
45107	25551-13-7	TRIMETHYLBENZENE	120.19	1.78	
45201	71-43-2	BENZENE	78.11	2.86	
45202	108-88-3	TOLUENE	92.13	0.78	
45703		2,2 DICHLORONITROANILINE	207.02	0.79	
46701	91-12-3	NAPTHALENE	128.17	1.31	
46702		METHYL NAPHTHALENES	142.20	2.04	
46711		C2 ALKYL INDAN	146.23	2.24	
98063		N-PENTYLCYCLOHEXANE	154.30	0.41	
98083		TRIMETHYLDECENE	182.35	1.12	
TOTAL				100.00	

VOC Profile Speciation Report

Profile Name : Petroleum Industry - Average
Profile Number : 9012
Data Quality : E

Control Device : Not Applicable
Reference(s) : 93
Data Source : Average profile developed from original profiles representing the source category 306XXXXX.

SCC Assignments:

Saroad	CAS Number	Name	Spec_MW	Spec_WT	Peak
43105		ISOMERS OF HEXANE	86.17	4.16	
43106		ISOMERS OF HEPTANE	100.20	0.63	
43107		ISOMERS OF OCTANE	114.23	0.40	
43108		ISOMERS OF NONANE	128.25	0.45	
43109		ISOMERS OF DECANE	142.28	0.28	
43115		C-7 CYCLOPARAFFINS	98.19	2.27	
43116		C-8 CYCLOPARAFFINS	112.23	0.66	
43117		C-9 CYCLOPARAFFINS	126.26	0.11	
43122		ISOMERS OF PENTANE	72.15	16.64	
43201	74-82-8	METHANE	16.04	13.01	
43202	74-84-0	ETHANE	30.07	6.05	
43204	74-98-6	PROPANE	44.09	19.68	
43205	115-07-1	PROPENE	42.08	1.75	
43212	106-97-8	N-BUTANE	58.12	7.99	
43213	106-98-9	BUTENE	56.10	0.15	
43214	75-28-5	ISO-BUTANE	58.12	2.89	
43220	109-66-0	N-PENTANE	72.15	4.80	
43231	110-54-3	HEXANE	86.17	3.86	
43232	142-82-5	HEPTANE	100.20	1.24	
43233	111-65-9	OCTANE	114.23	1.73	
43235	111-84-2	NONANE	128.25	0.56	
43238	124-18-5	N-DECANE	142.28	0.74	
43248	110-82-7	CYCLOHEXANE	84.16	0.08	
43502	50-00-0	FORMALDEHYDE	30.03	8.88	
45102	1330-20-7	ISOMERS OF XYLENE	106.16	0.19	
45201	71-43-2	BENZENE	78.11	0.38	
45202	108-88-3	TOLUENE	92.13	0.44	
TOTAL				100.02	

```
VOC Profile Speciation Report
--------------------------------------------------------------------------------
Profile Name   : Pulp and Paper Industry - Average
Profile Number : 9013
Data Quality   : E
--------------------------------------------------------------------------------
Control Device : Not Applicable
Reference(s)   : 93
Data Source    : Average profile developed from original profiles repre-
                 senting the source category 307XXXXX.

SCC Assignments:

--------------------------------------------------------------------------------
Saroad       CAS Number        Name                           Spec_MW  Spec_WT  Peak
--------------------------------------------------------------------------------
43204          74-98-6         PROPANE                          44.09     0.03
43256          80-56-8         A-PINENE                        136.24    52.71
43257         127-91-3         B-PINENE                        136.24    34.44
90050        5794-03-6         CAMPHENE                        136.24     1.27
90051         123-35-3         MYRCENE                         136.24     1.87
90052                          B-PHELLANDRENE                  136.24     1.69
90053        5989-27-5         D-LIMONENE                      136.24     7.99
--------------------------------------------------------------------------------
TOTAL                                                                   100.00
================================================================================
```

VOC Profile Speciation Report

Profile Name : Rubber and Miscellaneous Plastics Products - Average
Profile Number : 9014
Data Quality : E

Control Device : Not Applicable
Reference(s) : 93
Data Source : Average profile developed from original profiles representing the source category 308XXXXX.

SCC Assignments:

Saroad	CAS Number	Name	Spec_MW	Spec_WT	Peak
43105		ISOMERS OF HEXANE	86.17	8.07	
43106		ISOMERS OF HEPTANE	100.20	1.63	
43107		ISOMERS OF OCTANE	114.23	0.27	
43115		C-7 CYCLOPARAFFINS	98.19	14.40	
43116		C-8 CYCLOPARAFFINS	112.23	2.00	
43218	106-99-0	1,3-BUTADIENE	54.09	20.00	
43231	110-54-3	HEXANE	86.17	13.13	
43232	142-82-5	HEPTANE	100.20	0.63	
43233	111-65-9	OCTANE	114.23	0.13	
43242	287-92-3	CYCLOPENTANE	70.14	0.07	
43248	110-82-7	CYCLOHEXANE	84.16	5.57	
43262	96-37-7	METHYLCYCLOPENTANE	84.16	17.13	
45201	71-43-2	BENZENE	78.11	3.50	
45202	108-88-3	TOLUENE	92.13	0.13	
45220	100-42-5	STYRENE	104.14	13.33	
TOTAL				99.99	

```
VOC Profile Speciation Report
-----------------------------------------------------------------------------------------
Profile Name   : Oil and Gas Production - Average
Profile Number : 9015
Data Quality   : E
-----------------------------------------------------------------------------------------
Control Device : Not Applicable
Reference(s)   : 93
Data Source    : Average profile developed from original profiles repre-
                 senting the source category 310XXXXX.

SCC Assignments:

-----------------------------------------------------------------------------------------
Saroad       CAS Number       Name                              Spec_MW    Spec_WT    Peak
-----------------------------------------------------------------------------------------
43105                         ISOMERS OF HEXANE                   86.17       6.64
43106                         ISOMERS OF HEPTANE                 100.20       7.79
43107                         ISOMERS OF OCTANE                  114.23       5.79
43115                         C-7 CYCLOPARAFFINS                  98.19       1.10
43116                         C-8 CYCLOPARAFFINS                 112.23       0.40
43122                         ISOMERS OF PENTANE                  72.15       3.20
43201           74-82-8       METHANE                             16.04      53.81
43202           74-84-0       ETHANE                              30.07       7.44
43204           74-98-6       PROPANE                             44.09       8.24
43212          106-97-8       N-BUTANE                            58.12       5.24
43214           75-28-5       ISO-BUTANE                          58.12       0.25
45201           71-43-2       BENZENE                             78.11       0.10
-----------------------------------------------------------------------------------------
TOTAL                                                                       100.00
=========================================================================================
```

VOC Profile Speciation Report

Profile Name : Textile Products - Average
Profile Number : 9016
Data Quality : E

Control Device : Not Applicable
Reference(s) : 93
Data Source : Average profile developed from original profiles representing the source category 330XXXXX.

SCC Assignments:

Saroad	CAS Number	Name	Spec_MW	Spec_WT	Peak
43132		ALIPHATICS	100.00	9.97	
43133		PARAFFINS (C16-C34)	352.43	1.81	
43134		PARAFFINS/OLEFINS (C12-C16)	197.38	0.04	
43318	104-76-7	2-ETHYL HEXANOL	130.23	0.20	
43408	57-10-3	PALMITIC ACID	256.43	19.78	
43454	112-39-0	METHYL PALMITATE	270.46	8.26	
43455	124-10-7	METHYL MYRISTATE	242.41	3.08	
43456	112-61-8	METHYL STEARATE	298.52	10.67	
43460		METHYL C11 ESTER	214.35	0.00	
43461		METHYL C12 ESTER	228.37	0.01	
43462		METHYL C13 ESTER	242.40	0.00	
43463		METHYL C14 ESTER	256.43	0.04	
43464		METHYL C15 ESTER	270.45	0.02	
43465		METHYL C19 ESTER	326.56	0.01	
43466		METHYL C20 ESTER	340.59	0.00	
43470	111-82-0	METHYL DODECANOATE	214.35	0.01	
43650		OXYGENATES	86.00	0.27	
43780		DIMETHYL ALKYL AMINES	59.11	0.21	
43950	556-67-2	OCTAMETHYLCYCLOTETRASILOXANE	296.62	1.06	
43951		SILOXANE	76.08	0.58	
45109		C3/C4/C5 ALKYLBENZENES	134.21	2.78	
45226	92-52-4	BIPHENYL	154.21	1.30	
45227		METHYL BIPHENYL	168.24	0.09	
45228		ETHYL STYRENE	132.21	2.97	
45229	1321-74-0	DIVINYL BENZENE	130.20	0.32	
45230		DI(ETHYLPHENYL) ETHANE	238.37	0.00	
45232	103-29-7	DIPHENYL ETHANE	182.27	0.71	
45233		ETHYL-PHENYL-PHENYL-ETHANE	210.32	1.22	
45310		C8 PHENOLS	122.16	0.03	
45311		C9 PHENOLS	136.19	0.13	
45402	65-85-0	BENZOIC ACID	122.13	0.87	
45451	131-11-3	DIMETHYL PHTHALATE	194.19	5.73	
45452	84-74-2	DIBUTYL PHTHALATE	278.35	0.40	
45454	131-16-8	DIPROPYL PHTHALATE	250.30	0.01	
45455	136-60-7	BUTYL BENZOATE	178.23	21.07	
45470		DI-C8 ALKYL PHTHALATE	390.56	0.31	
45703		2,2 DICHLORONITROANILINE	207.02	0.11	
45704	1817-73-8	BROMODINITROANILINE	262.03	0.01	
45705		BROMODINITROBENZENE	247.02	1.08	
45808	2531-22-6	DICHLOROBENZENES	147.01	0.06	
45830		TRICHLOROBENZENES	181.45	1.45	

```
VOC Profile Speciation Report  -  continued (profile 9016)
------------------------------------------------------------------------------------
Saroad       CAS Number        Name                                  Spec_MW  Spec_WT  Peak
------------------------------------------------------------------------------------
45831                          TETRACHLOROBENZENES                    215.90     0.07
46102            84-65-1       ANTHRAQUINONE                          208.23     1.30
46103            82-45-1       AMINOANTHRAQUINONE                     223.23     0.02
46701            91-12-3       NAPTHALENE                             128.17     1.00
46702                          METHYL NAPHTHALENES                    142.20     0.22
46703         28804-88-8       DIMETHYL NAPTHALENE                    156.23     0.27
99999                          UNIDENTIFIED                            86.00     0.43
------------------------------------------------------------------------------------
TOTAL                                                                           99.98
====================================================================================
```

VOC Profile Speciation Report

Profile Name : Drycleaning/Degreasing - Average
Profile Number : 9017
Data Quality : E

Control Device : Not Applicable
Reference(s) : 93
Data Source : Average profile developed from original profiles representing the source category 401XXXXX.

SCC Assignments:

Saroad	CAS Number	Name	Spec_MW	Spec_WT	Peak
43109		ISOMERS OF DECANE	142.28	1.36	
43110		ISOMERS OF UNDECANE	156.30	0.95	
43111		ISOMERS OF DODECANE	170.32	0.18	
43112		ISOMERS OF TRIDECANE	184.36	0.01	
43113		ISOMERS OF TETRADECANE	198.38	0.01	
43124		C9 OLEFINS	126.24	0.00	
43125		C10 OLEFINS	140.27	0.29	
43135		C10 PARAFFINS	142.28	0.06	
43136		C9 PARAFFIN	128.25	0.00	
43138		C-8 OLEFINS	112.23	0.09	
43141		C8 PARAFFIN	114.23	0.00	
43146		C11 OLEFINS	154.29	0.11	
43147		C12 OLEFINS	168.32	0.02	
43148		ISOMERS OF C9H16	124.23	0.04	
43150		ISOMERS OF C10H18	138.25	0.01	
43151		ISOMERS OF C11H20	152.28	0.01	
43151		ISOMERS OF C11H20	152.28	0.01	
43152		C12H22	166.31	0.00	
43153		C10H16	136.24	0.01	
43231	110-54-3	HEXANE	86.17	0.01	
43232	142-82-5	HEPTANE	100.20	2.57	
43235	111-84-2	NONANE	128.25	0.85	
43248	110-82-7	CYCLOHEXANE	84.16	0.01	
43261	108-87-2	METHYLCYCLOHEXANE	98.21	0.56	
43288	1678-91-7	ETHYLCYCLOHEXANE	112.23	0.07	
43301	67-56-1	METHYL ALCOHOL	32.04	7.14	
43302	64-17-5	ETHYL ALCOHOL	46.07	2.14	
43314	78-92-2	S-BUTYL ALCOHOL	74.12	0.05	
43336		OCTANOL	130.26	0.01	
43351	60-29-7	ETHYL ETHER	74.12	0.06	
43397		TRIMETHYLCYCLOHEXANOL	142.24	0.01	
43551	67-64-1	ACETONE	58.08	0.10	
43552	78-93-3	METHYL ETHYL KETONE	72.10	0.08	
43565		DIMETHYLCYCLOBUTANONE	98.14	0.02	
43566		TRIMETHYLCYCLOPENTANONE	126.20	0.01	
43567		TETRAMETHYLPENTANONE	142.24	0.05	
43802	75-09-2	DICHLOROMETHANE	84.94	12.44	
43811	75-69-4	TRICHLOROFLUOROMETHANE	137.38	7.14	
43814	71-55-6	1,1,1-TRICHLOROETHANE	133.42	8.74	
43817	127-18-4	PERCHLOROETHYLENE	165.83	13.53	
43820	79-00-5	1,1,2-TRICHLOROETHANE	133.42	7.14	

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VOC Profile Speciation Report  -  continued (profile 9017)
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Saroad      CAS Number       Name                             Spec_MW    Spec_WT   Peak
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43821          76-13-1       TRICHLOROTRIFLUOROETHANE          187.38       7.65
43824          79-01-6       TRICHLOROETHYLENE                 131.40       8.65
45102        1330-20-7       ISOMERS OF XYLENE                 106.16       0.24
45105                        ISOMERS OF BUTYLBENZENE           134.22       0.44
45107       25551-13-7       TRIMETHYLBENZENE                  120.19       0.28
45108                        ISOMERS OF PROPYLBENZENE          120.19       0.17
45113                        C11H10                            142.20       0.00
45201          71-43-2       BENZENE                            78.11       0.07
45202         108-88-3       TOLUENE                            92.13       9.27
45203         100-41-4       ETHYLBENZENE                      106.16       0.03
45204          95-47-6       O-XYLENE                          106.16       0.18
45209         103-65-1       N-PROPYLBENZENE                   120.19       0.04
45210          98-82-8       CUMENE (ISOPROPYL BENZENE)        120.20       0.04
45215          98-06-6       TERT-BUTYLBENZENE                 134.21       0.03
45238                        ETHYLTOLUENE                      120.19       0.03
45245                        C5-ALKYLBENZENES                  148.24       0.02
45303                        C4-ALKYLPHENOLS                   150.22       0.04
45304                        C5-ALKYLPHENOLS                   164.25       0.02
45320                        DIMETHYLBENZYLALCOHOL             136.19       0.02
45801         108-90-7       CHLOROBENZENE                     112.56       0.02
45808        2531-22-6       DICHLOROBENZENES                  147.01       0.00
46202                        OCTAHYDROINDENES                  244.00       0.02
46601        2782-91-4       TETRAMETHYLTHIOUREA               132.25       0.01
46602          95-16-9       BENZOTHIAZOLE                     135.19       0.00
46701          91-12-3       NAPTHALENE                        128.17       0.04
46747                        METHYLINDANS                      132.21       0.00
46748                        METHYLDECALINS                    152.28       0.05
46753          91-17-8       DECALINS                          138.25       0.07
90010                        M-XYLENE AND P-XYLENE             106.16       0.26
90028                        METHYLHEXANE                      100.20       0.39
90029                        METHYLHEXENES                      98.18       0.04
90045                        METHYLHEPTANE                     114.23       0.00
90047                        METHYLNONANE                      142.28       0.58
90048                        METHYLDECANES                     156.32       0.49
90049                        METHYLUNDECANE                    170.34       0.09
90055                        PENTYLCYCLOHEXANE                 154.29       0.04
90064                        DIMETHYLCYCLOPENTANE               98.19       0.22
90066                        NONADIENE                         124.23       0.02
90067                        DIMETHYLHEXANES                   114.23       0.10
90070                        DIMETHYLOCTANES                   142.28       0.64
90071                        DIMETHYLUNDECANE                  184.36       0.02
90072                        METHYLPROPYLCYCLOHEXANES          140.27       0.32
90073                        METHYLISOPROPYLCYCLOHEXANE        140.27       0.02
90074                        DIMETHYLDECANE                    170.34       0.02
90075                        ETHYLOCTENE                       140.27       0.01
90076                        DIMETHYLNONANES                   156.31       0.28
90077                        ETHYLOCTANE                       142.29       0.02
90080                        ETHYLMETHYLCYCLOPENTANE           112.21       0.00
90081                        ETHYLHEXANE                       114.23       0.04
90082                        ETHYLMETHYLHEXANE                 128.26       0.01
90083                        ETHYLMETHYLCYCLOHEXANES           126.24       0.57
90085                        ETHYLMETHYLOCTANE                 156.31       0.02
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VOC Profile Speciation Report - continued (profile 9017)

Saroad	CAS Number	Name	Spec_MW	Spec_WT	Peak
90089		ETHYLDIMETHYLCYCLOHEXANE	140.27	0.08	
90090		ETHYLPROPYLCYCLOHEXANES	154.29	0.06	
90091		TETRAMETHYLCYCLOBUTENE	110.19	0.00	
90094		TRIMETHYLHEPTANES	142.29	0.56	
90095		TRIMETHYLHEXENE	126.24	0.03	
90096		TRIMETHYLOCTANES	156.31	0.04	
90097		TRIMETHYLDECANE	184.36	0.00	
90098		TETRAMETHYLCYCLOPENTANE	126.24	0.07	
90101	1678-93-9	BUTYLCYCLOHEXANE	140.27	0.19	
90102		METHYLPROPYLNONANE	184.36	0.01	
90104		METHYLOCTANES	128.26	0.35	
90105		PROPENYLCYCLOHEXANE	124.33	0.07	
90106		METHYLNONENE	140.26	0.01	
90107		METHYLDECENE	154.29	0.08	
90108		METHYLDODECANE	184.36	0.01	
90109		PROPYLHEPTENES	140.27	0.05	
90110		DIETHYLMETHYLCYCLOHEXANES	111.20	0.05	
90111		ISOPROPYLMETHYLCYCLOHEXANE	140.27	0.04	
90112		DIMETHYLOCTYNE	138.25	0.01	
90113		PENTYLIDENECYCLOHEXANE	152.00	0.01	
90114		DIMETHYLBUTYLCYCLOHEXANE	168.32	0.00	
90118		OCTAHYDROPENTALENE	225.20	0.01	
90120		PROPYLCYCLOHEXANE	126.24	0.18	
98058		TRIMETHYLCYCLOPENTANE	112.16	0.11	
98059		DIMETHYLCYCLOHEXANE	112.24	0.07	
98060	3073-66-3	TRIMETHYLCYCLOHEXANES	126.27	0.24	
98062		DIETHYLCYCLOHEXANE	140.27	0.06	
98063		N-PENTYLCYCLOHEXANE	154.30	0.01	
98082		ETHYLHEPTENE	126.24	0.01	
98091		DIMETHYLHEPTANES	128.26	0.05	
TOTAL				99.98	

VOC Profile Speciation Report

Profile Name : Surface Coating Operations - Average
Profile Number : 9021
Data Quality : E

Control Device : Not Applicable
Reference(s) : 93
Data Source : Average profile developed from original profiles representing the source category 402XXXXX.

SCC Assignments:

Saroad	CAS Number	Name	Spec_MW	Spec_WT	Peak
43107		ISOMERS OF OCTANE	114.23	0.03	
43108		ISOMERS OF NONANE	128.25	1.44	
43109		ISOMERS OF DECANE	142.28	2.53	
43110		ISOMERS OF UNDECANE	156.30	0.17	
43119		LACTOL SPIRITS	114.00	3.33	
43122		ISOMERS OF PENTANE	72.15	1.87	
43125		C10 OLEFINS	140.27	0.24	
43126		C2 CYCLOHEXANE	112.22	0.10	
43127		C3 CYCLOHEXANE	126.24	0.07	
43128		C5 CYCLOHEXANE	154.30	0.03	
43129		C4 SUBSTITUTED CYCLOHEXANE	140.27	0.10	
43150		ISOMERS OF C10H18	138.25	0.15	
43231	110-54-3	HEXANE	86.17	0.41	
43232	142-82-5	HEPTANE	100.20	1.87	
43238	124-18-5	N-DECANE	142.28	0.01	
43241	1120-21-4	N-UNDECANE	156.31	0.09	
43247	108-08-7	2,4-DIMETHYLPENTANE	100.20	0.15	
43248	110-82-7	CYCLOHEXANE	84.16	0.57	
43261	108-87-2	METHYLCYCLOHEXANE	98.21	0.94	
43262	96-37-7	METHYLCYCLOPENTANE	84.16	0.11	
43277		2,4-DIMETHYLHEXANE	114.22	0.64	
43288	1678-91-7	ETHYLCYCLOHEXANE	112.23	0.14	
43301	67-56-1	METHYL ALCOHOL	32.04	3.33	
43302	64-17-5	ETHYL ALCOHOL	46.07	3.33	
43304	67-63-0	ISO-PROPYL ALCOHOL	60.09	3.70	
43305	71-36-3	N-BUTYL ALCOHOL	74.12	4.00	
43308	111-76-2	BUTYL CELLOSOLVE	118.17	0.55	
43311	110-80-5	CELLOSOLVE	90.12	3.33	
43312	112-34-5	2-(2-BUTOXYETHOXY)-ETHANOL	162.26	0.03	
43313		1-ETHOXY-2-PROPANOL	104.15	0.05	
43318	104-76-7	2-ETHYL HEXANOL	130.23	0.03	
43320	123-42-2	DIACETONE ALCOHOL	116.18	0.03	
43322	110-63-4	1,4 BUTANEDIOL	90.12	0.37	
43367	111-46-6	GLYCOL ETHER	106.14	0.10	
43370	107-21-1	ETHYLENE GLYCOL	62.07	0.02	
43371	107-41-5	HEXYLENE GLYCOL	118.18	3.38	
43372	142-96-1	DIBUTYL ETHER	130.23	0.01	
43377	111-90-0	CARBITOL	134.18	3.33	
43391		2-BUTYLTETRAHYDROFURAN	128.19	0.01	
43432	79-20-9	METHYLACETATE	74.08	3.33	
43433	141-78-6	ETHYL ACETATE	88.10	4.14	

VOC Profile Speciation Report - continued (profile 9021)

Saroad	CAS Number	Name	Spec_MW	Spec_WT	Peak
43435	138-22-7	N-BUTYL ACETATE	116.16	5.05	
43444	108-21-4	ISOPROPYL ACETATE	102.13	3.33	
43450	68-12-2	DIMETHYL FORMAMIDE	73.09	3.33	
43452	111-15-9	CELLOSOLVE ACETATE	132.16	3.33	
43453	108-05-4	VINYL ACETATE	86.09	0.00	
43454	112-39-0	METHYL PALMITATE	270.46	0.01	
43457	109-87-5	METHYLAL	76.11	0.90	
43458		SUBSTITUTED C9 ESTER (C12)	218.24	0.95	
43459		C5 ESTER	130.19	0.23	
43551	67-64-1	ACETONE	58.08	5.77	
43552	78-93-3	METHYL ETHYL KETONE	72.10	5.50	
43560	108-10-1	METHYL ISOBUTYL KETONE	100.16	0.79	
43562	110-43-0	METHYL AMYL KETONE	114.21	0.18	
43563	7379-12-6	2-METHYL-3-HEXANONE	114.19	0.67	
43570		ALKENE KETONE	72.10	0.07	
43601	75-21-8	ETHYLENE OXIDE	44.05	3.33	
43801	74-87-3	METHYL CHLORIDE	50.49	0.02	
43802	75-09-2	DICHLOROMETHANE	84.94	0.22	
43812	75-00-3	ETHYL CHLORIDE	64.52	0.02	
43835	78-86-4	1-CHLOROBUTANE	92.57	0.07	
43836		3-(CHLOROMETHYL)-HEPTANE	148.68	0.02	
43837	106-93-4	ETHYLENE DIBROMIDE	187.88	0.03	
45101	8030-30-6	NAPHTHA	114.00	3.33	
45102	1330-20-7	ISOMERS OF XYLENE	106.16	4.82	
45104		ISOMERS OF ETHYLTOLUENE	120.19	0.25	
45107	25551-13-7	TRIMETHYLBENZENE	120.19	0.34	
45108		ISOMERS OF PROPYLBENZENE	120.19	0.04	
45201	71-43-2	BENZENE	78.11	0.05	
45202	108-88-3	TOLUENE	92.13	6.72	
45203	100-41-4	ETHYLBENZENE	106.16	0.42	
45204	95-47-6	O-XYLENE	106.16	0.71	
45205	108-38-3	M-XYLENE	106.16	0.06	
45206	106-42-3	P-XYLENE	106.16	0.04	
45501	100-52-7	BENZALDEHYDE	106.13	0.03	
45502	104-87-0	P-TOLUALDEHYDE	120.16	0.04	
45601	85-44-9	PHTHALIC ANHYDRIDE	148.12	0.03	
98057	1640-89-7	ETHYLCYCLOPENTANE	98.19	0.06	
98058		TRIMETHYLCYCLOPENTANE	112.16	0.05	
98059		DIMETHYLCYCLOHEXANE	112.24	0.34	
98060	3073-66-3	TRIMETHYLCYCLOHEXANES	126.27	0.16	
98062		DIETHYLCYCLOHEXANE	140.27	0.27	
98082		ETHYLHEPTENE	126.24	0.08	
98090		METHYLHEPTENE	112.22	0.04	
98091		DIMETHYLHEPTANES	128.26	0.06	
98106		ETHYLISOPROPYL ETHER	88.15	0.17	
TOTAL				99.99	

VOC Profile Speciation Report

Profile Name : **Solid Waste Disposal - Average**
Profile Number : 9022
Data Quality : E

Control Device : Not Applicable
Reference(s) : 93
Data Source : Average profile developed from original profiles representing the source category 5XXXXXXX.

SCC Assignments:

Saroad	CAS Number	Name	Spec_MW	Spec_WT	Peak
43121		ISOMERS OF PENTENE	70.13	3.93	
43123		TERPENES	136.23	0.03	
43201	74-82-8	METHANE	16.04	59.71	
43202	74-84-0	ETHANE	30.07	0.93	
43203	74-85-1	ETHYLENE	28.05	9.37	
43204	74-98-6	PROPANE	44.09	0.67	
43205	115-07-1	PROPENE	42.08	0.17	
43206	74-86-2	ACETYLENE	26.04	0.63	
43212	106-97-8	N-BUTANE	58.12	0.70	
43213	106-98-9	BUTENE	56.10	1.97	
43214	75-28-5	ISO-BUTANE	58.12	0.67	
43220	109-66-0	N-PENTANE	72.15	0.67	
43224	109-67-1	1-PENTENE	70.13	3.93	
43231	110-54-3	HEXANE	86.17	4.63	
43232	142-82-5	HEPTANE	100.20	4.63	
43233	111-65-9	OCTANE	114.23	4.60	
43242	287-92-3	CYCLOPENTANE	70.14	0.03	
43817	127-18-4	PERCHLOROETHYLENE	165.83	0.10	
45102	1330-20-7	ISOMERS OF XYLENE	106.16	0.03	
45201	71-43-2	BENZENE	78.11	2.57	
45202	108-88-3	TOLUENE	92.13	0.03	
TOTAL				100.00	

VOC Profile Speciation Report

Profile Name : Thinning Solvents - Average
Profile Number : 9023
Data Quality : E

Control Device : Not Applicable
Reference(s) : 93
Data Source : Average profile developed from original profiles representing the source category 402009XX.

SCC Assignments:

Saroad	CAS Number	Name	Spec_MW	Spec_WT	Peak
43107		ISOMERS OF OCTANE	114.23	0.04	
43108		ISOMERS OF NONANE	128.25	1.55	
43109		ISOMERS OF DECANE	142.28	3.61	
43110		ISOMERS OF UNDECANE	156.30	0.20	
43119		LACTOL SPIRITS	114.00	4.76	
43125		C10 OLEFINS	140.27	0.34	
43126		C2 CYCLOHEXANE	112.22	0.14	
43127		C3 CYCLOHEXANE	126.24	0.09	
43128		C5 CYCLOHEXANE	154.30	0.04	
43129		C4 SUBSTITUTED CYCLOHEXANE	140.27	0.14	
43150		ISOMERS OF C10H18	138.25	0.21	
43232	142-82-5	HEPTANE	100.20	0.15	
43241	1120-21-4	N-UNDECANE	156.31	0.12	
43261	108-87-2	METHYLCYCLOHEXANE	98.21	0.32	
43301	67-56-1	METHYL ALCOHOL	32.04	4.76	
43302	64-17-5	ETHYL ALCOHOL	46.07	4.76	
43304	67-63-0	ISO-PROPYL ALCOHOL	60.09	5.00	
43305	71-36-3	N-BUTYL ALCOHOL	74.12	4.76	
43311	110-80-5	CELLOSOLVE	90.12	4.76	
43371	107-41-5	HEXYLENE GLYCOL	118.18	4.76	
43377	111-90-0	CARBITOL	134.18	4.76	
43432	79-20-9	METHYLACETATE	74.08	4.76	
43433	141-78-6	ETHYL ACETATE	88.10	4.76	
43435	138-22-7	N-BUTYL ACETATE	116.16	5.20	
43444	108-21-4	ISOPROPYL ACETATE	102.13	4.76	
43450	68-12-2	DIMETHYL FORMAMIDE	73.09	4.76	
43452	111-15-9	CELLOSOLVE ACETATE	132.16	4.76	
43551	67-64-1	ACETONE	58.08	4.76	
43552	78-93-3	METHYL ETHYL KETONE	72.10	4.96	
43570		ALKENE KETONE	72.10	0.09	
43601	75-21-8	ETHYLENE OXIDE	44.05	4.76	
43802	75-09-2	DICHLOROMETHANE	84.94	0.06	
43837	106-93-4	ETHYLENE DIBROMIDE	187.88	0.04	
45101	8030-30-6	NAPHTHA	114.00	4.76	
45102	1330-20-7	ISOMERS OF XYLENE	106.16	4.76	
45202	108-88-3	TOLUENE	92.13	0.72	
45203	100-41-4	ETHYLBENZENE	106.16	0.04	
45205	108-38-3	M-XYLENE	106.16	0.08	
45206	106-42-3	P-XYLENE	106.16	0.05	
45501	100-52-7	BENZALDEHYDE	106.13	0.04	
45502	104-87-0	P-TOLUALDEHYDE	120.16	0.05	

VOC Profile Speciation Report - continued (profile 9023)

Saroad	CAS Number	Name	Spec_MW	Spec_WT	Peak
45601	85-44-9	PHTHALIC ANHYDRIDE	148.12	0.04	
98062		DIETHYLCYCLOHEXANE	140.27	0.38	
98082		ETHYLHEPTENE	126.24	0.11	
TOTAL				99.97	

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VOC Profile Speciation Report
--------------------------------------------------------------------------------
Profile Name   : Petroleum Product Storage - Average
Profile Number : 9024
Data Quality   : E
--------------------------------------------------------------------------------
Control Device : Not Applicable
Reference(s)   : 93
Data Source    : Average profile developed from original profiles repre-
                 senting the source category 403XXXXX.

SCC Assignments:

--------------------------------------------------------------------------------
Saroad      CAS Number      Name                          Spec_MW   Spec_WT   Peak
--------------------------------------------------------------------------------
43105                       ISOMERS OF HEXANE               86.17      2.86
43115                       C-7 CYCLOPARAFFINS              98.19      0.42
43116                       C-8 CYCLOPARAFFINS             112.23      0.16
43122                       ISOMERS OF PENTANE              72.15      0.49
43201          74-82-8      METHANE                         16.04      2.01
43202          74-84-0      ETHANE                          30.07      1.81
43204          74-98-6      PROPANE                         44.09      5.70
43212         106-97-8      N-BUTANE                        58.12      8.78
43214          75-28-5      ISO-BUTANE                      58.12      0.49
43220         109-66-0      N-PENTANE                       72.15      4.73
43231         110-54-3      HEXANE                          86.17      2.56
43232         142-82-5      HEPTANE                        100.20      3.01
43233         111-65-9      OCTANE                         114.23      2.40
43235         111-84-2      NONANE                         128.25      1.52
43238         124-18-5      N-DECANE                       142.28      6.35
43241        1120-21-4      N-UNDECANE                     156.31      6.57
43255         112-40-3      N-DODECANE                     170.33      5.89
43258         629-50-5      N-TRIDECANE                    184.36      5.73
43259         629-59-4      N-TETRADECANE                  198.38      3.79
43260         629-62-9      N-PENTADECANE                  212.41      2.33
45201          71-43-2      BENZENE                         78.11     32.41
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TOTAL                                                                100.01
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VOC Profile Speciation Report
--------------------------------------------------------------------------------
Profile Name   : Bulk Terminals - Petroleum Storage Tanks - Average
Profile Number : 9025
Data Quality   : E
--------------------------------------------------------------------------------
Control Device : Not Applicable
Reference(s)   : 93
Data Source    : Average profile developed from original profiles repre-
                 senting the source category 404XXXXX.

SCC Assignments:

--------------------------------------------------------------------------------
Saroad       CAS Number      Name                           Spec_MW   Spec_WT   Peak
--------------------------------------------------------------------------------
43105                        ISOMERS OF HEXANE                86.17      1.75
43106                        ISOMERS OF HEPTANE              100.20      3.41
43107                        ISOMERS OF OCTANE               114.23      0.65
43108                        ISOMERS OF NONANE               128.25      0.15
43109                        ISOMERS OF DECANE               142.28      0.02
43120                        ISOMERS OF BUTENE                56.10      0.82
43122                        ISOMERS OF PENTANE               72.15     18.58
43124                        C9 OLEFINS                      126.24      0.10
43125                        C10 OLEFINS                     140.27      0.00
43138                        C-8 OLEFINS                     112.23      0.07
43201           74-82-8      METHANE                          16.04      3.02
43202           74-84-0      ETHANE                           30.07      0.97
43204           74-98-6      PROPANE                          44.09      6.33
43212          106-97-8      N-BUTANE                         58.12     23.61
43214           75-28-5      ISO-BUTANE                       58.12     11.35
43216          624-64-6      T-2-BUTENE                       56.11      0.80
43217          590-18-1      CIS-2-BUTENE                     56.11      0.62
43220          109-66-0      N-PENTANE                        72.15      8.28
43223          563-45-1      3-METHYL-1-BUTENE                70.13      0.23
43224          109-67-1      1-PENTENE                        70.13      0.59
43225          563-46-2      2-METHYL-1-BUTENE                70.13      0.95
43226          646-04-8      TRANS-2-PENTENE                  70.13      0.93
43227          627-20-3      CIS-2-PENTENE                    70.13      0.46
43228          513-35-9      2-METHYL-2-BUTENE                70.13      0.36
43230           96-14-0      3-METHYL PENTANE                 86.17      1.58
43231          110-54-3      HEXANE                           86.17      2.88
43232          142-82-5      HEPTANE                         100.20      1.09
43233          111-65-9      OCTANE                          114.23      0.09
43235          111-84-2      NONANE                          128.25      0.01
43238          124-18-5      N-DECANE                        142.28      0.00
43242          287-92-3      CYCLOPENTANE                     70.14      0.49
43245          592-41-6      1-HEXENE                         84.16      0.23
43247          108-08-7      2,4-DIMETHYLPENTANE             100.20      0.42
43248          110-82-7      CYCLOHEXANE                      84.16      0.27
43250          540-84-1      2,2,4-TRIMETHYLPENTANE          114.22      0.17
43252          565-75-3      2,3,4-TRIMETHYLPENTANE          114.22      0.07
43261          108-87-2      METHYLCYCLOHEXANE                98.21      0.23
43262           96-37-7      METHYLCYCLOPENTANE               84.16      1.44
43265          111-66-0      OCTENE                          112.21      0.02
43270          922-61-2      3-METHYL-T-2-PENTENE             84.16      0.03
43271                        3,5,5-TRIMETHYLHEXANE           128.26      0.19
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VOC Profile Speciation Report - continued (profile 9025)

Saroad	CAS Number	Name	Spec_MW	Spec_WT	Peak
43278	592-13-2	2,5-DIMETHYLHEXANE	114.22	0.16	
43284	625-27-4	2-METHYL-2-PENTENE	84.16	0.04	
43289		C6 OLEFINS	84.16	0.24	
43291	75-83-2	2,2-DIMETHYLBUTANE	86.17	0.75	
43292	142-29-0	CYCLOPENTENE	68.11	0.17	
43293	27236-46-0	4-METHYL-T-2-PENTENE	84.18	0.16	
43294		C7 OLEFINS	98.18	0.05	
43295	589-34-4	3-METHYLHEXANE	100.20	0.54	
43298		3-METHYLHEPTANE	114.23	0.17	
43299		1-METHYLCYCLOHEXENE	96.17	0.08	
43820	79-00-5	1,1,2-TRICHLOROETHANE	133.42	0.01	
45102	1330-20-7	ISOMERS OF XYLENE	106.16	0.31	
45109		C3/C4/C5 ALKYLBENZENES	134.21	0.01	
45110		C10 AROMATIC	134.22	0.00	
45201	71-43-2	BENZENE	78.11	1.63	
45202	108-88-3	TOLUENE	92.13	1.43	
45203	100-41-4	ETHYLBENZENE	106.16	0.09	
45204	95-47-6	O-XYLENE	106.16	0.13	
45207	108-67-8	1,3,5-TRIMETHYLBENZENE	120.19	0.02	
45208	95-63-6	1,2,4-TRIMETHYLBENZENE	120.19	0.05	
45209	103-65-1	N-PROPYLBENZENE	120.19	0.01	
45210	98-82-8	CUMENE (ISOPROPYL BENZENE)	120.20	0.00	
45211	611-14-3	O-ETHYLTOLUENE	120.19	0.03	
45212	620-14-4	M-ETHYLTOLUENE	120.19	0.03	
45215	98-06-6	TERT-BUTYLBENZENE	134.21	0.00	
45218	141-93-5	M-DIETHYLBENZENE	134.22	0.00	
45225	526-73-8	1,2,3-TRIMETHYLBENZENE	120.19	0.03	
45801	108-90-7	CHLOROBENZENE	112.56	0.01	
46701	91-12-3	NAPTHALENE	128.17	0.00	
46712	95-13-6	INDENE	116.16	0.00	
90013		C-2-OCTENE	112.21	0.01	
98033		2,2,5-TRIMETHYLHEXANE	128.26	0.07	
98034	40504-55-7	T-2-HEXENE	84.16	0.25	
98035	592-43-8	C-2-HEXENE	84.16	0.20	
98040	763-29-1	2-METHYL-1-PENTENE	84.16	0.02	
98041		3-HEPTENE	98.19	0.01	
98044	496-11-7	INDANE	118.18	0.00	
98054	107-39-1	2,4,4-TRIMETHYL-1-PENTENE	112.22	0.02	
98056	590-86-3	ISOVALERALDEHYDE	86.14	0.00	
TOTAL				99.99	

VOC Profile Speciation Report

Profile Name : Printing/Publishing - Average
Profile Number : 9026
Data Quality : E

Control Device : Not Applicable
Reference(s) : 93
Data Source : Average profile developed from original profiles representing the source category 405XXXXX.

SCC Assignments: 40500601, 40500701

Saroad	CAS Number	Name	Spec_MW	Spec_WT	Peak
43114		ISOMERS OF PENTADECANE	212.41	0.02	
43118	64475-85-0	MINERAL SPIRITS	114.00	16.75	
43125		C10 OLEFINS	140.27	0.02	
43155		ISOMERS OF HEPTADECANE	240.47	0.46	
43156		ISOMERS OF OCTADECANE	254.50	0.21	
43201	74-82-8	METHANE	16.04	10.01	
43202	74-84-0	ETHANE	30.07	3.00	
43203	74-85-1	ETHYLENE	28.05	0.25	
43204	74-98-6	PROPANE	44.09	1.50	
43205	115-07-1	PROPENE	42.08	4.20	
43212	106-97-8	N-BUTANE	58.12	0.13	
43213	106-98-9	BUTENE	56.10	1.70	
43224	109-67-1	1-PENTENE	70.13	1.49	
43248	110-82-7	CYCLOHEXANE	84.16	1.82	
43273	110-83-8	CYCLOHEXENE	82.14	0.03	
43301	67-56-1	METHYL ALCOHOL	32.04	0.75	
43304	67-63-0	ISO-PROPYL ALCOHOL	60.09	0.75	
43305	71-36-3	N-BUTYL ALCOHOL	74.12	0.75	
43332	106-21-8	DIMETHYLOCTANOL	158.32	0.01	
43333		DIMETHYLHEPTANOL	144.26	0.01	
43334		METHYLHEPTANOL	130.26	0.01	
43335		METHOXYETHOXYETHANOL	120.15	0.01	
43377	111-90-0	CARBITOL	134.18	12.50	
43434	109-60-4	N-PROPYL ACETATE	102.15	3.43	
43435	138-22-7	N-BUTYL ACETATE	116.16	1.00	
43444	108-21-4	ISOPROPYL ACETATE	102.13	3.76	
43474		METHYLMETHYLPROPENOATE	100.13	0.00	
43475		METHYLETHYLPENTANOATE	144.22	0.00	
43502	50-00-0	FORMALDEHYDE	30.03	2.73	
43551	67-64-1	ACETONE	58.08	3.06	
43552	78-93-3	METHYL ETHYL KETONE	72.10	6.78	
43560	108-10-1	METHYL ISOBUTYL KETONE	100.16	14.35	
45102	1330-20-7	ISOMERS OF XYLENE	106.16	0.50	
45106		ISOMERS OF DIETHYLBENZENE	134.21	0.88	
45202	108-88-3	TOLUENE	92.13	2.44	
45203	100-41-4	ETHYLBENZENE	106.16	0.75	
45304		C5-ALKYLPHENOLS	164.25	0.02	
45330	90-43-7	BIPHENYLOL	170.22	0.01	
45402	65-85-0	BENZOIC ACID	122.13	0.00	
45452	84-74-2	DIBUTYL PHTHALATE	278.35	1.25	
45456		BUTYLISOPROPYLPHTHALATE	264.32	1.60	

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VOC Profile Speciation Report  -  continued (profile 9026)
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Saroad      CAS Number      Name                          Spec_MW   Spec_WT   Peak
----------------------------------------------------------------------------------
45706                       N-PHENYLANILINE                169.24     0.01
45731          58-84-9      TOLUENE DIISOCYANATE           174.17     0.00
90030         544-76-3      HEXADECANE                     226.45     0.41
90049                       METHYLUNDECANE                 170.34     0.21
90071                       DIMETHYLUNDECANE               184.36     0.03
90077                       ETHYLOCTANE                    142.29     0.06
90096                       TRIMETHYLOCTANES               156.31     0.10
90097                       TRIMETHYLDECANE                184.36     0.04
90125         629-94-7      HENEICOSANE                    296.59     0.04
90126         112-95-8      EICOSANE                       282.56     0.06
90127                       NONADECANE                     268.53     0.11
90130          87-44-5      CARYOPHYLLENE                  204.36     0.01
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TOTAL                                                               100.02
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VOC Profile Speciation Report
--------------------------------------------------------------------------------------
Profile Name   : Transportation and Marketing of Petroleum Products - Average
Profile Number : 9027
Data Quality   : E
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Control Device : Not Applicable
Reference(s)   : 93
Data Source    : Average profile developed from original profiles repre-
                 senting the source category 406XXXXX.

SCC Assignments:

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Saroad      CAS Number      Name                              Spec_MW   Spec_WT   Peak
--------------------------------------------------------------------------------------
43105                       ISOMERS OF HEXANE                   86.17      0.05
43109                       ISOMERS OF DECANE                  142.28      0.05
43110                       ISOMERS OF UNDECANE                156.30      0.04
43111                       ISOMERS OF DODECANE                170.32      0.02
43113                       ISOMERS OF TETRADECANE             198.38      0.01
43115                       C-7 CYCLOPARAFFINS                  98.19      0.02
43124                       C9 OLEFINS                         126.24      0.05
43125                       C10 OLEFINS                        140.27      0.02
43135                       C10 PARAFFINS                      142.28      0.00
43136                       C9 PARAFFIN                        128.25      0.24
43138                       C-8 OLEFINS                        112.23      0.10
43141                       C8 PARAFFIN                        114.23      1.93
43142                       C7 PARAFFINS                       100.20      0.02
43143                       C5 OLEFIN                           70.13      0.95
43144                       C5 PARAFFIN                         72.15      1.04
43145                       C5 PARAFFIN/OLEFIN                  70.13      0.54
43146                       C11 OLEFINS                        154.29      0.02
43148                       ISOMERS OF C9H16                   124.23      0.01
43149                       C8H14                              110.20      0.00
43201          74-82-8      METHANE                             16.04      1.30
43202          74-84-0      ETHANE                              30.07      1.86
43204          74-98-6      PROPANE                             44.09      7.92
43212         106-97-8      N-BUTANE                            58.12     15.14
43213         106-98-9      BUTENE                              56.10      0.07
43220         109-66-0      N-PENTANE                           72.15      9.28
43231         110-54-3      HEXANE                              86.17      6.37
43232         142-82-5      HEPTANE                            100.20      6.34
43233         111-65-9      OCTANE                             114.23      4.81
43242         287-92-3      CYCLOPENTANE                        70.14      0.08
43261         108-87-2      METHYLCYCLOHEXANE                   98.21      0.10
43262          96-37-7      METHYLCYCLOPENTANE                  84.16      0.34
43264                       HEPTENE                             98.18      0.01
43272         693-89-0      METHYLCYCLOPENTENE                  82.14      0.22
43273         110-83-8      CYCLOHEXENE                         82.14      0.02
43288        1678-91-7      ETHYLCYCLOHEXANE                   112.23      0.04
43292         142-29-0      CYCLOPENTENE                        68.11      0.09
43395                       C7H12O                             112.17      0.02
43565                       DIMETHYLCYCLOBUTANONE               98.14      0.02
45105                       ISOMERS OF BUTYLBENZENE            134.22      1.60
45106                       ISOMERS OF DIETHYLBENZENE          134.21      0.01
45107       25551-13-7      TRIMETHYLBENZENE                   120.19      2.15
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VOC Profile Speciation Report - continued (profile 9027)

Saroad	CAS Number	Name	Spec_MW	Spec_WT	Peak
45108		ISOMERS OF PROPYLBENZENE	120.19	0.38	
45111		C10H12	132.22	0.02	
45112		ISOMERS OF C10H10	130.19	0.00	
45201	71-43-2	BENZENE	78.11	1.62	
45202	108-88-3	TOLUENE	92.13	7.63	
45203	100-41-4	ETHYLBENZENE	106.16	2.04	
45204	95-47-6	O-XYLENE	106.16	3.21	
45209	103-65-1	N-PROPYLBENZENE	120.19	0.46	
45210	98-82-8	CUMENE (ISOPROPYL BENZENE)	120.20	0.16	
45220	100-42-5	STYRENE	104.14	0.08	
45221	25013-15-4	METHYL STYRENE	118.19	0.02	
45238		ETHYLTOLUENE	120.19	1.80	
45243		ETHYLDIMETHYLBENZENE	134.22	0.62	
45244		TETRAMETHYLBENZENE	134.22	0.51	
45245		C5-ALKYLBENZENES	148.24	0.71	
45246		C5-ALKYLBENZENES (UNSAT.)	146.25	0.02	
45247		C6-ALKYLBENZENE	162.27	0.05	
45248		C4-ALKYLSTYRENES	160.26	0.03	
45249		C7-ALKYLBENZENE	176.30	0.00	
45501	100-52-7	BENZALDEHYDE	106.13	0.00	
45801	108-90-7	CHLOROBENZENE	112.56	0.01	
46115		DIMETHYLNAPHTHYRIDINE	158.20	0.00	
46701	91-12-3	NAPTHALENE	128.17	0.40	
46702		METHYL NAPHTHALENES	142.20	0.32	
46746		C2-ALKYLNAPHTHALENE	156.23	0.05	
46747		METHYLINDANS	132.21	0.26	
46749		METHYLDIHYDRONAPHTHALENE	144.22	0.00	
46750		DIMETHYLINDANS	146.23	0.21	
46751		DIHYDRONAPTHALENE	130.19	0.03	
46752		DIMETHYLINDENE	144.22	0.00	
46754		ETHYLINDAN	146.23	0.02	
46755		TRIMETHYLINDAN	160.26	0.03	
90010		M-XYLENE AND P-XYLENE	106.16	7.66	
90021		METHYLPROPANE	58.12	1.32	
90022		METHYLPROPENE	56.10	0.07	
90023		METHYLBUTENE	70.13	0.03	
90024		METHYLBUTADIENE	68.12	0.00	
90025		METHYLPENTENES	84.16	0.44	
90026		METHYLPENTANE	86.17	0.88	
90027		METHYLCYCLOPENTADIENE	80.14	0.02	
90028		METHYLHEXANE	100.20	0.84	
90029		METHYLHEXENES	98.18	0.01	
90039		METHYLHEXADIENE	96.17	0.12	
90041	4313-57-9	METHYLCYCLOHEXADIENE	94.15	0.01	
90043		METHYLHEXANAL	114.19	0.46	
90044		METHYLHEPTYNE	110.20	0.01	
90045		METHYLHEPTANE	114.23	0.17	
90046		METHYLCYCLOHEXENE	96.17	0.07	
90047		METHYLNONANE	142.28	0.10	
90048		METHYLDECANES	156.32	0.06	
90054		PENTENYNE	66.10	0.01	
90056		HEXENE	84.16	0.20	

VOC Profile Speciation Report - continued (profile 9027)

Saroad	CAS Number	Name	Spec_MW	Spec_WT	Peak
90058	142-83-6	HEXADIENAL	96.14	0.01	
90059	5910-85-9	HEPTADIENAL	110.17	0.01	
90060	79-29-8	DIMETHYLBUTANE	86.18	1.14	
90061		DIMETHYLBUTENE	84.16	0.15	
90062		DIMETHYLPENTANE	100.20	0.18	
90063		DIMETHYLPENTENE	98.19	0.01	
90064		DIMETHYLCYCLOPENTANE	98.19	0.07	
90065		DIMETHYLCYCLOPENTENES	96.17	0.15	
90067		DIMETHYLHEXANES	114.23	0.38	
90068		DIMETHYLHEXADIENE	110.20	0.05	
90069		DIMETHYLETHYLCYCLOHEXANE	140.26	0.04	
90070		DIMETHYLOCTANES	142.28	0.03	
90071		DIMETHYLUNDECANE	184.36	0.00	
90074		DIMETHYLDECANE	170.34	0.03	
90078		ETHYLPENTENE	98.19	0.01	
90079		ETHYLCYCLOPENTENE	96.17	0.03	
90080		ETHYLMETHYLCYCLOPENTANE	112.21	0.06	
90081		ETHYLHEXANE	114.23	0.12	
90082		ETHYLMETHYLHEXANE	128.26	0.10	
90083		ETHYLMETHYLCYCLOHEXANES	126.24	0.03	
90084		ETHYLHEPTANE	128.26	0.01	
90085		ETHYLMETHYLOCTANE	156.31	0.01	
90086		ETHYLBICYCLOHEPTANE	223.42	0.00	
90087		ETHYLDIMETHYLPENTANE	128.26	0.06	
90091		TETRAMETHYLCYCLOBUTENE	110.19	0.02	
90092		TRIMETHYLPENTANE	114.22	0.34	
90093		TRIMETHYLPENTADIENE	110.20	0.02	
90094		TRIMETHYLHEPTANES	142.29	0.07	
90095		TRIMETHYLHEXENE	126.24	0.02	
90096		TRIMETHYLOCTANES	156.31	0.03	
90097		TRIMETHYLDECANE	184.36	0.01	
90099		OCTATRIENE	108.19	0.00	
90100		NONENE	126.24	0.01	
90103		PENTADIENE	68.13	0.02	
90104		METHYLOCTANES	128.26	0.27	
98044	496-1[illegible]	INDANE	118.18	0.22	
98058		TRIMETHYLCYCLOPENTANE	112.16	0.04	
98059		DIMETHYLCYCLOHEXANE	112.24	0.05	
98060	3073-66-3	TRIMETHYLCYCLOHEXANES	126.27	0.01	
98091		DIMETHYLHEPTANES	128.26	0.08	
99999		UNIDENTIFIED	86.00	0.00	
TOTAL				99.96	

VOC Profile Speciation Report

Profile Name   : Organic Chemical Storage - Average
Profile Number : 9028
Data Quality   : E

Control Device : Not Applicable
Reference(s)   : 93
Data Source   : Average profile developed from original profiles representing the source category 407XXXXX.

SCC Assignments:

Saroad	CAS Number	Name	Spec_MW	Spec_WT	Peak
43111		ISOMERS OF DODECANE	170.32	1.47	
43114		ISOMERS OF PENTADECANE	212.41	1.47	
43224	109-67-1	1-PENTENE	70.13	1.47	
43231	110-54-3	HEXANE	86.17	1.47	
43232	142-82-5	HEPTANE	100.20	1.47	
43238	124-18-5	N-DECANE	142.28	1.47	
43243	78-79-5	ISOPRENE	68.12	1.47	
43248	110-82-7	CYCLOHEXANE	84.16	1.47	
43264		HEPTENE	98.18	1.47	
43292	142-29-0	CYCLOPENTENE	68.11	1.47	
43303	71-23-8	N-PROPYL ALCOHOL	60.10	1.47	
43306	78-83-1	ISOBUTYL ALCOHOL	74.12	1.47	
43308	111-76-2	BUTYL CELLOSOLVE	118.17	1.47	
43309	75-65-0	TERT-BUTYL ALCOHOL	74.12	1.47	
43310	109-86-4	METHYL CELLOSOLVE	76.11	1.47	
43317	108-93-0	CYCLOHEXANOL	100.16	1.47	
43351	60-29-7	ETHYL ETHER	74.12	1.47	
43373	111-46-6	DIETHYLENE GLYCOL	106.12	1.47	
43374	106-62-7	DIPROPYLENE GLYCOL	134.18	1.47	
43376	628-28-4	METHYL T-BUTYL ETHER	88.15	1.47	
43377	111-90-0	CARBITOL	134.18	1.47	
43378	111-77-3	METHYL CARBITOL	120.15	1.47	
43379	112-34-5	BUTYL CARBITOL	162.23	1.47	
43403	64-18-6	FORMIC ACID	46.03	1.47	
43404	64-19-7	ACETIC ACID	60.05	1.47	
43405	79-09-4	PROPIONIC ACID	74.08	1.47	
43407	79-10-7	ACRYLIC ACID	72.06	1.47	
43409	124-04-9	ADIPIC ACID	146.14	1.47	
43432	79-20-9	METHYLACETATE	74.08	1.47	
43434	109-60-4	N-PROPYL ACETATE	102.15	1.47	
43437	96-33-3	METHYL ACRYLATE	86.09	1.47	
43438	140-88-5	ETHYL ACRYLATE	100.11	1.47	
43440	141-32-2	BUTYL ACRYLATE	128.17	1.47	
43451	297-85-8	ISOBUTYL ISOBUTYRATE	144.21	1.47	
43468	106-63-8	ISOBUTYL ACRYLATE	128.19	1.47	
43502	50-00-0	FORMALDEHYDE	30.03	1.47	
43503	75-07-0	ACETALDEHYDE	44.05	1.47	
43504	123-38-6	PROPIONALDEHYDE	58.08	1.47	
43505	107-02-8	ACROLEIN	56.07	1.47	
43510	123-72-8	BUTYRALDEHYDE	72.12	1.47	
43511	78-84-2	ISOBUTYRALDEHYDE	72.11	1.47	

VOC Profile Speciation Report - continued (profile 9028)

Saroad	CAS Number	Name	Spec_MW	Spec_WT	Peak
43561	108-94-1	CYCLOHEXANONE	98.15	1.47	
43562	110-43-0	METHYL AMYL KETONE	114.21	1.47	
43602	75-56-9	PROPYLENE OXIDE	58.08	1.47	
43604	108-24-7	ACETIC ANHYDRIDE	102.09	1.47	
43704	107-13-1	ACRYLONITRILE	53.06	1.47	
43777	141-43-5	ETHANOLAMINE	61.08	1.47	
43778		ETHYLENEAMINES	45.08	1.47	
43803	67-66-3	CHLOROFORM	119.39	1.47	
43804	56-23-5	CARBON TETRACHLORIDE	153.84	1.47	
43837	106-93-4	ETHYLENE DIBROMIDE	187.88	1.47	
43863	106-89-8	EPICHLOROHYDRIN	92.53	1.47	
43902	75-08-1	ETHYL MERCAPTAN	62.13	1.47	
45203	100-41-4	ETHYLBENZENE	106.16	1.47	
45204	95-47-6	O-XYLENE	106.16	1.47	
45205	108-38-3	M-XYLENE	106.16	1.47	
45206	106-42-3	P-XYLENE	106.16	1.47	
45210	98-82-8	CUMENE (ISOPROPYL BENZENE)	120.20	1.47	
45221	25013-15-4	METHYL STYRENE	118.19	1.47	
45236		DIISOPROPYL BENZENE	162.28	1.47	
45605	1319-77-3	CRESOL	108.14	1.47	
45701	62-53-3	ANILINE	93.13	1.47	
45702	98-95-3	NITROBENZENE	123.11	1.47	
45731	58-84-9	TOLUENE DIISOCYANATE	174.17	1.47	
45750	504-60-9	PIPERYLENE	68.12	1.47	
45810	100-44-7	BENZYL CHLORIDE	126.59	1.47	
90001	112-41-4	DODECENE	168.32	1.47	
90011		METHYLALLENE	54.09	1.47	
TOTAL				99.96	

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VOC Profile Speciation Report
-------------------------------------------------------------------------------
Profile Name   : Organic Chemical Storage - Fixed Roof Tanks - Alcohols - Average
Profile Number : 9029
Data Quality   : E
-------------------------------------------------------------------------------
Control Device : Not Applicable
Reference(s)   : 93
Data Source    : Average profile developed from original profiles repre-
                 senting the source category 407008XX.

SCC Assignments:

-------------------------------------------------------------------------------
Saroad      CAS Number      Name                           Spec_MW  Spec_WT  Peak
-------------------------------------------------------------------------------
43303          71-23-8      N-PROPYL ALCOHOL                 60.10    25.00
43306          78-83-1      ISOBUTYL ALCOHOL                 74.12    25.00
43309          75-65-0      TERT-BUTYL ALCOHOL               74.12    25.00
43317         108-93-0      CYCLOHEXANOL                    100.16    25.00
-------------------------------------------------------------------------------
TOTAL                                                               100.00
===============================================================================
VOC Profile Speciation Report
-----------------------------------------------------------------------------------
Profile Name   : Organic Chemical Storage - Fixed Roof Tanks - Alkanes - Average
Profile Number : 9030
Data Quality   : E
-----------------------------------------------------------------------------------
Control Device : Not Applicable
Reference(s)   : 93
Data Source    : Average profile developed from original profiles repre-
                 senting the source category 407016XX.

SCC Assignments:

-----------------------------------------------------------------------------------
Saroad       CAS Number       Name                            Spec_MW   Spec_WT   Peak
-----------------------------------------------------------------------------------
43111                         ISOMERS OF DODECANE              170.32     25.00
43114                         ISOMERS OF PENTADECANE           212.41     25.00
43232          142-82-5       HEPTANE                          100.20     25.00
43238          124-18-5       N-DECANE                         142.28     25.00
-----------------------------------------------------------------------------------
TOTAL                                                                    100.00
===================================================================================
VOC Profile Speciation Report
--------------------------------------------------------------------------------
Profile Name   : Organic Chemical Storage - Fixed Roof Tanks - Alkenes - Average
Profile Number : 9031
Data Quality   : E
--------------------------------------------------------------------------------
Control Device : Not Applicable
Reference(s)   : 93
Data Source    : Average profile developed from original profiles repre-
                 senting the source category 407020XX.

SCC Assignments:

--------------------------------------------------------------------------------
Saroad       CAS Number       Name                           Spec_MW   Spec_WT   Peak
--------------------------------------------------------------------------------
43264                         HEPTENE                          98.18     50.00
90001          112-41-4       DODECENE                        168.32     50.00
--------------------------------------------------------------------------------
TOTAL                                                                   100.00
================================================================================
VOC Profile Speciation Report
-------------------------------------------------------------------------------
Profile Name   : Organic Chemical Storage - Fixed Roof Tanks - Amines - Average
Profile Number : 9032
Data Quality   : E
-------------------------------------------------------------------------------
Control Device : Not Applicable
Reference(s)   : 93
Data Source    : Average profile developed from original profiles repre-
                 senting the source category 407032XX.

SCC Assignments:

-------------------------------------------------------------------------------
Saroad      CAS Number      Name                            Spec_MW  Spec_WT  Peak
-------------------------------------------------------------------------------
43777         141-43-5      ETHANOLAMINE                      61.08    33.33
43778                       ETHYLENEAMINES                    45.08    33.33
45701          62-53-3      ANILINE                           93.13    33.33
-------------------------------------------------------------------------------
TOTAL                                                                  99.99
===============================================================================
VOC Profile Speciation Report
-------------------------------------------------------------------------------------
Profile Name   : Organic Chemical Storage - Fixed Roof Tanks - Aromatics - Average
Profile Number : 9033
Data Quality   : E
-------------------------------------------------------------------------------------
Control Device : Not Applicable
Reference(s)   : 93
Data Source    : Average profile developed from original profiles repre-
                 senting the source category 407036XX.

SCC Assignments:

-------------------------------------------------------------------------------------
Saroad     CAS Number      Name                                Spec_MW   Spec_WT   Peak
-------------------------------------------------------------------------------------
45203        100-41-4      ETHYLBENZENE                         106.16     12.50
45204         95-47-6      O-XYLENE                             106.16     12.50
45205        108-38-3      M-XYLENE                             106.16     12.50
45206        106-42-3      P-XYLENE                             106.16     12.50
45210         98-82-8      CUMENE (ISOPROPYL BENZENE)           120.20     12.50
45221      25013-15-4      METHYL STYRENE                       118.19     12.50
45236                      DIISOPROPYL BENZENE                  162.28     12.50
45605       1319-77-3      CRESOL                               108.14     12.50
-------------------------------------------------------------------------------------
TOTAL                                                                     100.00
=====================================================================================
VOC Profile Speciation Report
--------------------------------------------------------------------------------
Profile Name   : Organic Chemical Storage - Fixed Roof Tanks - Carboxylic Acids - Average
Profile Number : 9034
Data Quality   : E
--------------------------------------------------------------------------------
Control Device : Not Applicable
Reference(s)   : 93
Data Source    : Average profile developed from original profiles repre-
                 senting the source category 407040XX.

SCC Assignments:

--------------------------------------------------------------------------------
Saroad      CAS Number      Name                              Spec_MW  Spec_WT  Peak
--------------------------------------------------------------------------------
43403          64-18-6      FORMIC ACID                         46.03    20.00
43404          64-19-7      ACETIC ACID                         60.05    20.00
43405          79-09-4      PROPIONIC ACID                      74.08    20.00
43407          79-10-7      ACRYLIC ACID                        72.06    20.00
43409         124-04-9      ADIPIC ACID                        146.14    20.00
--------------------------------------------------------------------------------
TOTAL                                                                   100.00
================================================================================
```

VOC Profile Speciation Report

Profile Name : Organic Chemical Storage - Fixed Roof Tanks - Esters - Average
Profile Number : 9035
Data Quality : E

Control Device : Not Applicable
Reference(s) : 93
Data Source : Average profile developed from original profiles representing the source category 407044XX.

SCC Assignments:

Saroad	CAS Number	Name	Spec_MW	Spec_WT	Peak
43432	79-20-9	METHYLACETATE	74.08	14.29	
43434	109-60-4	N-PROPYL ACETATE	102.15	14.29	
43437	96-33-3	METHYL ACRYLATE	86.09	14.29	
43438	140-88-5	ETHYL ACRYLATE	100.11	14.29	
43440	141-32-2	BUTYL ACRYLATE	128.17	14.29	
43451	297-85-8	ISOBUTYL ISOBUTYRATE	144.21	14.29	
43468	106-63-8	ISOBUTYL ACRYLATE	128.19	14.29	
TOTAL				100.03	

VOC Profile Speciation Report

Profile Name : Organic Chemical Storage - Fixed Roof Tanks - Glycol Ethers - Average
Profile Number : 9036
Data Quality : E

Control Device : Not Applicable
Reference(s) : 93
Data Source : Average profile developed from original profiles representing the source category 407052XX.

SCC Assignments:

Saroad	CAS Number	Name	Spec_MW	Spec_WT	Peak
43308	111-76-2	BUTYL CELLOSOLVE	118.17	16.67	
43310	109-86-4	METHYL CELLOSOLVE	76.11	16.67	
43373	111-46-6	DIETHYLENE GLYCOL	106.12	16.67	
43377	111-90-0	CARBITOL	134.18	16.67	
43378	111-77-3	METHYL CARBITOL	120.15	16.67	
43379	112-34-5	BUTYL CARBITOL	162.23	16.67	
TOTAL				100.02	

VOC Profile Speciation Report

Profile Name : Organic Chemical Storage - Fixed Roof Tanks - Glycols - Average
Profile Number : 9037
Data Quality : E

Control Device : Not Applicable
Reference(s) : 93
Data Source : Average profile developed from original profiles representing the source category 407056XX.

SCC Assignments:

Saroad	CAS Number	Name	Spec_MW	Spec_WT	Peak
43374	106-62-7	DIPROPYLENE GLYCOL	134.18	100.00	
TOTAL				100.00	

```
VOC Profile Speciation Report
--------------------------------------------------------------------------------
Profile Name   : Organic Chemical Storage - Fixed Roof Tanks - Halogenated Organics - Average
Profile Number : 9038
Data Quality   : E
--------------------------------------------------------------------------------
Control Device : Not Applicable
Reference(s)   : 93
Data Source    : Average profile developed from original profiles repre-
                 senting the source category 407060XX.

SCC Assignments:

--------------------------------------------------------------------------------
Saroad      CAS Number      Name                              Spec_MW   Spec_WT   Peak
--------------------------------------------------------------------------------
43804          56-23-5      CARBON TETRACHLORIDE               153.84     25.00
43837         106-93-4      ETHYLENE DIBROMIDE                 187.88     25.00
43863         106-89-8      EPICHLOROHYDRIN                     92.53     25.00
45810         100-44-7      BENZYL CHLORIDE                    126.59     25.00
--------------------------------------------------------------------------------
TOTAL                                                                    100.00
================================================================================
VOC Profile Speciation Report
-------------------------------------------------------------------------------
Profile Name   : Organic Chemical Storage - Fixed Roof Tanks - Isocyanates - Average
Profile Number : 9039
Data Quality   : E
-------------------------------------------------------------------------------
Control Device : Not Applicable
Reference(s)   : 93
Data Source    : Average profile developed from original profiles repre-
                 senting the source category 407064XX.

SCC Assignments:

-------------------------------------------------------------------------------
Saroad      CAS Number      Name                               Spec_MW  Spec_WT  Peak
-------------------------------------------------------------------------------
45731         58-84-9       TOLUENE DIISOCYANATE               174.17    100.00
-------------------------------------------------------------------------------
TOTAL                                                                    100.00
===============================================================================
VOC Profile Speciation Report
-------------------------------------------------------------------------------------
Profile Name   : Organic Chemical Storage - Fixed Roof Tanks - Ketones - Average
Profile Number : 9040
Data Quality   : E
-------------------------------------------------------------------------------------
Control Device : Not Applicable
Reference(s)   : 93
Data Source    : Average profile developed from original profiles repre-
                 senting the source category 407068XX.

SCC Assignments:

-------------------------------------------------------------------------------------
Saroad      CAS Number       Name                           Spec_MW   Spec_WT   Peak
-------------------------------------------------------------------------------------
43561        108-94-1        CYCLOHEXANONE                    98.15     50.00
43562        110-43-0        METHYL AMYL KETONE              114.21     50.00
-------------------------------------------------------------------------------------
TOTAL                                                                  100.00
=====================================================================================
VOC Profile Speciation Report
--------------------------------------------------------------------------------
Profile Name   : Organic Chemical Storage - Floating Roof Tanks - Aldehydes - Average
Profile Number : 9041
Data Quality   : E
--------------------------------------------------------------------------------
Control Device : Not Applicable
Reference(s)   : 93
Data Source    : Average profile developed from original profiles repre-
                 senting the source category 407172XX.

SCC Assignments:

--------------------------------------------------------------------------------
Saroad       CAS Number       Name                              Spec_MW  Spec_WT   Peak
--------------------------------------------------------------------------------
43502           50-00-0       FORMALDEHYDE                        30.03    25.00
43504          123-38-6       PROPIONALDEHYDE                     58.08    25.00
43510          123-72-8       BUTYRALDEHYDE                       72.12    25.00
43511           78-84-2       ISOBUTYRALDEHYDE                    72.11    25.00
--------------------------------------------------------------------------------
TOTAL                                                                     100.00
================================================================================
VOC Profile Speciation Report
------------------------------------------------------------------------------
Profile Name   : Organic Chemical Storage Floating Roof Tanks - Alkanes - Average
Profile Number : 9042
Data Quality   : E
------------------------------------------------------------------------------
Control Device : Not Applicable
Reference(s)   : 93
Data Source    : Average profile developed from original profiles repre-
                 senting the source category 407176XX.

SCC Assignments:

------------------------------------------------------------------------------
Saroad      CAS Number      Name                            Spec_MW  Spec_WT  Peak
------------------------------------------------------------------------------
43231         110-54-3      HEXANE                            86.17    50.00
43248         110-82-7      CYCLOHEXANE                       84.16    50.00
------------------------------------------------------------------------------
TOTAL                                                                100.00
==============================================================================
```

VOC Profile Speciation Report

Profile Name : Organic Chemical Storage - Floating Roof Tanks - Ethers - Average
Profile Number : 9043
Data Quality : E

Control Device : Not Applicable
Reference(s) : 93
Data Source : Average profile developed from original profiles representing the source category 407208XX.

SCC Assignments:

Saroad	CAS Number	Name	Spec_MW	Spec_WT	Peak
43351	60-29-7	ETHYL ETHER	74.12	50.00	
43602	75-56-9	PROPYLENE OXIDE	58.08	50.00	
TOTAL				100.00	

```
VOC Profile Speciation Report
------------------------------------------------------------------------------
Profile Name   : Organic Chemical Storage - Floating Roof Tanks - Halogenated Organics - Average
Profile Number : 9044
Data Quality   : E
------------------------------------------------------------------------------
Control Device : Not Applicable
Reference(s)   : 93
Data Source    : Average profile developed from original profiles repre-
                 senting the source category  407220XX.

SCC Assignments:

------------------------------------------------------------------------------
Saroad       CAS Number       Name                          Spec_MW   Spec_WT   Peak
------------------------------------------------------------------------------
43803           67-66-3       CHLOROFORM                     119.39     50.00
43804           56-23-5       CARBON TETRACHLORIDE           153.84     50.00
------------------------------------------------------------------------------
TOTAL                                                                  100.00
==============================================================================
```

VOC Profile Speciation Report

Profile Name : Organic Chemical Storage - Pressure Tanks - Alkenes - Average
Profile Number : 9046
Data Quality : E

Control Device : Not Applicable
Reference(s) : 93
Data Source : Average profile developed from original profiles representing the source category 407820XX.

SCC Assignments:

Saroad	CAS Number	Name	Spec_MW	Spec_WT	Peak
43224	109-67-1	1-PENTENE	70.13	20.00	
43243	78-79-5	ISOPRENE	68.12	20.00	
43292	142-29-0	CYCLOPENTENE	68.11	20.00	
45750	504-60-9	PIPERYLENE	68.12	20.00	
90011		METHYLALLENE	54.09	20.00	
TOTAL				100.00	

```
VOC Profile Speciation Report
--------------------------------------------------------------------------------
Profile Name   : Organic Solvent Evaporation Miscellaneous - Average
Profile Number : 9047
Data Quality   : E
--------------------------------------------------------------------------------
Control Device : Not Applicable
Reference(s)   : 93
Data Source    : Average profile developed from original profiles repre-
                 senting the source category 490XXXXX.

SCC Assignments:

--------------------------------------------------------------------------------
Saroad       CAS Number       Name                          Spec_MW   Spec_WT   Peak
--------------------------------------------------------------------------------
43369           57-55-6       PROPYLENE GLYCOL                76.11     12.50
43370          107-21-1       ETHYLENE GLYCOL                 62.07     12.50
43441           80-62-6       METHYL METHACRYLATE            100.13     12.50
45300          108-95-2       PHENOL                          94.11     12.50
45503           98-01-1       2-FURFURAL                      96.09     12.50
45801          108-90-7       CHLOROBENZENE                  112.56     12.50
45805           95-50-1       O-DICHLOROBENZENE              147.01     12.50
46210         8001-58-9       CREOSOTE                       130.19     12.50
--------------------------------------------------------------------------------
TOTAL                                                                 100.00
================================================================================
```

VOC Profile Speciation Report

Profile Name : Over all Average
Profile Number : 0000
Data Quality : E

Control Device : NOT APPLICABLE
Reference(s) : 93
Data Source : Profile based on average of all profiles.

SCC Assignments:

Saroad	CAS Number	Name	Spec_MW	Spec_WT	Peak
43105		ISOMERS OF HEXANE	86.17	0.54	
43106		ISOMERS OF HEPTANE	100.20	0.25	
43107		ISOMERS OF OCTANE	114.23	0.15	
43108		ISOMERS OF NONANE	128.25	0.19	
43109		ISOMERS OF DECANE	142.28	0.40	
43110		ISOMERS OF UNDECANE	156.30	0.05	
43111		ISOMERS OF DODECANE	170.32	0.46	
43113		ISOMERS OF TETRADECANE	198.38	0.01	
43114		ISOMERS OF PENTADECANE	212.41	0.42	
43115		C-7 CYCLOPARAFFINS	98.19	0.71	
43116		C-8 CYCLOPARAFFINS	112.23	0.05	
43117		C-9 CYCLOPARAFFINS	126.26	0.00	
43118	64475-85-0	MINERAL SPIRITS	114.00	0.64	
43119		LACTOL SPIRITS	114.00	0.36	
43120		ISOMERS OF BUTENE	56.10	0.05	
43121		ISOMERS OF PENTENE	70.13	0.05	
43122		ISOMERS OF PENTANE	72.15	1.11	
43125		C10 OLEFINS	140.27	0.03	
43126		C2 CYCLOHEXANE	112.22	0.01	
43127		C3 CYCLOHEXANE	126.24	0.01	
43129		C4 SUBSTITUTED CYCLOHEXANE	140.27	0.01	
43130		C5 SUBSTITUTED CYCLOHEXANE	154.30	0.01	
43131		C6 SUBSTITUTED CYCLOHEXANE	168.32	0.01	
43132		ALIPHATICS	100.00	0.10	
43133		PARAFFINS (C16-C34)	352.43	0.02	
43140		C7-C16 PARAFFINS	156.31	0.15	
43141		C8 PARAFFIN	114.23	0.02	
43143		C5 OLEFIN	70.13	0.01	
43144		C5 PARAFFIN	72.15	0.01	
43145		C5 PARAFFIN/OLEFIN	70.13	0.00	
43150		ISOMERS OF C10H18	138.25	0.01	
43155		ISOMERS OF HEPTADECANE	240.47	0.01	
43156		ISOMERS OF OCTADECANE	254.50	0.01	
43201	74-82-8	METHANE	16.04	7.36	
43202	74-84-0	ETHANE	30.07	1.39	
43203	74-85-1	ETHYLENE	28.05	2.86	
43204	74-98-6	PROPANE	44.09	2.40	
43205	115-07-1	PROPENE	42.08	1.40	
43206	74-86-2	ACETYLENE	26.04	0.86	
43212	106-97-8	N-BUTANE	58.12	1.81	
43213	106-98-9	BUTENE	56.10	0.40	
43214	75-28-5	ISO-BUTANE	58.12	0.42	

VOC Profile Speciation Report - continued (profile 0000)

Saroad	CAS Number	Name	Spec_MW	Spec_WT	Peak
43216	624-64-6	T-2-BUTENE	56.11	0.01	
43218	106-99-0	1,3-BUTADIENE	54.09	0.67	
43220	109-66-0	N-PENTANE	72.15	0.71	
43221	78-78-4	ISO PENTANE	72.15	0.08	
43224	109-67-1	1-PENTENE	70.13	0.54	
43225	563-46-2	2-METHYL-1-BUTENE	70.13	0.01	
43226	646-04-8	TRANS-2-PENTENE	70.13	0.01	
43227	627-20-3	CIS-2-PENTENE	70.13	0.00	
43228	513-35-9	2-METHYL-2-BUTENE	70.13	0.00	
43229	107-83-5	2-METHYLPENTANE	86.17	0.02	
43230	96-14-0	3-METHYL PENTANE	86.17	0.03	
43231	110-54-3	HEXANE	86.17	1.37	
43232	142-82-5	HEPTANE	100.20	1.40	
43233	111-65-9	OCTANE	114.23	0.21	
43235	111-84-2	NONANE	128.25	0.09	
43238	124-18-5	N-DECANE	142.28	0.54	
43241	1120-21-4	N-UNDECANE	156.31	0.14	
43242	287-92-3	CYCLOPENTANE	70.14	0.01	
43243	78-79-5	ISOPRENE	68.12	0.40	
43245	592-41-6	1-HEXENE	84.16	0.03	
43247	108-08-7	2,4-DIMETHYLPENTANE	100.20	0.04	
43248	110-82-7	CYCLOHEXANE	84.16	0.90	
43250	540-84-1	2,2,4-TRIMETHYLPENTANE	114.22	0.01	
43255	112-40-3	N-DODECANE	170.33	0.19	
43256	80-56-8	A-PINENE	136.24	0.35	
43257	127-91-3	B-PINENE	136.24	0.23	
43258	629-50-5	N-TRIDECANE	184.36	0.10	
43259	629-59-4	N-TETRADECANE	198.38	0.07	
43260	629-62-9	N-PENTADECANE	212.41	0.17	
43261	108-87-2	METHYLCYCLOHEXANE	98.21	0.13	
43262	96-37-7	METHYLCYCLOPENTANE	84.16	0.27	
43264		HEPTENE	98.18	0.51	
43273	110-83-8	CYCLOHEXENE	82.14	0.01	
43277		2,4-DIMETHYLHEXANE	114.22	0.06	
43280		2,3,3 TRIMETHYLPENTANE	114.22	0.00	
43281	107-00-6	1-BUTYNE	54.09	0.02	
43282	503-17-3	2-BUTYNE	54.09	0.01	
43283		C-3-HEXENE	84.16	0.01	
43284	625-27-4	2-METHYL-2-PENTENE	84.16	0.01	
43285		2-HEXENE	84.16	0.01	
43286		DIMETHYLHEXENE	112.20	0.00	
43288	1678-91-7	ETHYLCYCLOHEXANE	112.23	0.02	
43291	75-83-2	2,2-DIMETHYLBUTANE	86.17	0.00	
43292	142-29-0	CYCLOPENTENE	68.11	0.40	
43295	589-34-4	3-METHYLHEXANE	100.20	0.01	
43301	67-56-1	METHYL ALCOHOL	32.04	1.40	
43302	64-17-5	ETHYL ALCOHOL	46.07	1.36	
43303	71-23-8	N-PROPYL ALCOHOL	60.10	0.42	
43304	67-63-0	ISO-PROPYL ALCOHOL	60.09	0.73	
43305	71-36-3	N-BUTYL ALCOHOL	74.12	0.69	
43306	78-83-1	ISOBUTYL ALCOHOL	74.12	0.42	
43308	111-76-2	BUTYL CELLOSOLVE	118.17	0.44	

VOC Profile Speciation Report - continued (profile 0000)

Saroad	CAS Number	Name	Spec_MW	Spec_WT	Peak
43309	75-65-0	TERT-BUTYL ALCOHOL	74.12	0.42	
43310	109-86-4	METHYL CELLOSOLVE	76.11	0.39	
43311	110-80-5	CELLOSOLVE	90.12	0.36	
43313		1-ETHOXY-2-PROPANOL	104.15	0.00	
43314	78-92-2	S-BUTYL ALCOHOL	74.12	0.34	
43317	108-93-0	CYCLOHEXANOL	100.16	0.45	
43318	104-76-7	2-ETHYL HEXANOL	130.23	0.00	
43322	110-63-4	1,4 BUTANEDIOL	90.12	0.04	
43350	115-10-6	DIMETHYLETHER	46.07	1.12	
43351	60-29-7	ETHYL ETHER	74.12	0.62	
43367	111-46-6	GLYCOL ETHER	106.14	0.05	
43369	57-55-6	PROPYLENE GLYCOL	76.11	0.38	
43370	107-21-1	ETHYLENE GLYCOL	62.07	0.37	
43371	107-41-5	HEXYLENE GLYCOL	118.18	0.36	
43373	111-46-6	DIETHYLENE GLYCOL	106.12	0.39	
43374	106-62-7	DIPROPYLENE GLYCOL	134.18	0.66	
43376	628-28-4	METHYL T-BUTYL ETHER	88.15	0.33	
43377	111-90-0	CARBITOL	134.18	0.46	
43378	111-77-3	METHYL CARBITOL	120.15	0.39	
43379	112-34-5	BUTYL CARBITOL	162.23	0.39	
43403	64-18-6	FORMIC ACID	46.03	0.42	
43404	64-19-7	ACETIC ACID	60.05	0.73	
43405	79-09-4	PROPIONIC ACID	74.08	0.40	
43407	79-10-7	ACRYLIC ACID	72.06	0.45	
43408	57-10-3	PALMITIC ACID	256.43	0.20	
43409	124-04-9	ADIPIC ACID	146.14	0.40	
43430	107-31-3	METHYL FORMATE	60.05	0.21	
43432	79-20-9	METHYLACETATE	74.08	0.71	
43433	141-78-6	ETHYL ACETATE	88.10	0.44	
43434	109-60-4	N-PROPYL ACETATE	102.15	0.49	
43435	138-22-7	N-BUTYL ACETATE	116.16	0.58	
43437	96-33-3	METHYL ACRYLATE	86.09	0.38	
43438	140-88-5	ETHYL ACRYLATE	100.11	0.50	
43440	141-32-2	BUTYL ACRYLATE	128.17	0.43	
43441	80-62-6	METHYL METHACRYLATE	100.13	0.46	
43444	108-21-4	ISOPROPYL ACETATE	102.13	0.47	
43450	68-12-2	DIMETHYL FORMAMIDE	73.09	0.36	
43451	297-85-8	ISOBUTYL ISOBUTYRATE	144.21	0.39	
43452	111-15-9	CELLOSOLVE ACETATE	132.16	0.36	
43453	108-05-4	VINYL ACETATE	86.09	0.55	
43454	112-39-0	METHYL PALMITATE	270.46	0.08	
43455	124-10-7	METHYL MYRISTATE	242.41	0.03	
43456	112-61-8	METHYL STEARATE	298.52	0.11	
43457	109-87-5	METHYLAL	76.11	0.17	
43458		SUBSTITUTED C9 ESTER (C12)	218.24	0.09	
43459		C5 ESTER	130.19	0.02	
43467		C4 SUBSTITUTED CYCLOHEXANONE	154.26	0.01	
43468	106-63-8	ISOBUTYL ACRYLATE	128.19	0.38	
43469	124-17-4	BUTOXYETHOXYETHANOL ACETATE	220.26	0.01	
43472		BUTOXYBUTENE	128.21	0.01	
43502	50-00-0	FORMALDEHYDE	30.03	1.55	
43503	75-07-0	ACETALDEHYDE	44.05	0.84	

VOC Profile Speciation Report - continued (profile 0000)

Saroad	CAS Number	Name	Spec_MW	Spec_WT	Peak
43504	123-38-6	PROPIONALDEHYDE	58.08	0.42	
43505	107-02-8	ACROLEIN	56.07	0.77	
43510	123-72-8	RUTYRALDEHYDE	72.12	0.44	
43511	78-84-2	ISOBUTYRALDEHYDE	72.11	0.42	
43513	107-22-2	GLYOXAL	58.04	0.02	
43514	78-98-8	METHYL GLYOXAL	72.07	0.02	
43520		TOTAL C2-C5 ALDEHYDES	72.12	0.12	
43551	67-64-1	ACETONE	58.08	1.47	
43552	78-93-3	METHYL ETHYL KETONE	72.10	1.22	
43560	108-10-1	METHYL ISOBUTYL KETONE	100.16	0.56	
43561	108-94-1	CYCLOHEXANONE	98.15	0.53	
43562	110-43-0	METHYL AMYL KETONE	114.21	0.50	
43562	110-43-0	METHYL AMYL KETONE	114.21	0.01	
43563	7379-12-6	2-METHYL-3-HEXANONE	114.19	0.07	
43567		TETRAMETHYLPENTANONE	142.24	0.00	
43568		NONENONE	140.22	0.02	
43570		ALKENE KETONE	72.10	0.01	
43601	75-21-8	ETHYLENE OXIDE	44.05	0.38	
43602	75-56-9	PROPYLENE OXIDE	58.08	0.50	
43603	108-31-6	MALEIC ANHYDRIDE	98.06	0.07	
43604	108-24-7	ACETIC ANHYDRIDE	102.09	0.35	
43704	107-13-1	ACRYLONITRILE	53.06	0.58	
43721	75-05-7	ETHYLAMINE	45.09	0.00	
43740	75-50-3	TRIMETHYLAMINE	59.11	0.00	
43776	124-09-4	HEXAMETHYLENEDIAMINE	116.20	0.67	
43777	141-43-5	ETHANOLAMINE	61.08	0.44	
43778		ETHYLENEAMINES	45.08	0.44	
43802	75-09-2	DICHLOROMETHANE	84.94	0.75	
43803	67-66-3	CHLOROFORM	119.39	0.51	
43804	56-23-5	CARBON TETRACHLORIDE	153.84	0.65	
43805	74-95-3	METHYLENE BROMIDE	173.85	0.03	
43811	75-69-4	TRICHLOROFLUOROMETHANE	137.38	0.61	
43812	75-00-3	ETHYL CHLORIDE	64.52	0.29	
43814	71-55-6	1,1,1-TRICHLOROETHANE	133.42	0.43	
43815	107-06-2	ETHYLENE DICHLORIDE	99.00	0.58	
43817	127-18-4	PERCHLOROETHYLENE	165.83	0.70	
43820	79-00-5	1,1,2-TRICHLOROETHANE	133.42	0.35	
43821	76-13-1	TRICHLOROTRIFLUOROETHANE	187.38	0.40	
43822		TRIMETHYLFLUOROSILANE	92.00	0.69	
43823	75-71-8	DICHLORODIFLUOROMETHANE	120.91	0.35	
43824	79-01-6	TRICHLOROETHYLENE	131.40	0.43	
43835	78-86-4	1-CHLOROBUTANE	92.57	0.01	
43837	106-93-4	ETHYLENE DIBROMIDE	187.88	0.42	
43838	26638-19-7	PROPYLENE DICHLORIDE	112.99	0.02	
43839	75-73-0	TETRAFLUOROMETHANE	88.01	0.03	
43840	75-45-6	CHLORODIFLUOROMETHANE	86.47	0.16	
43841	76-14-2	DICHLOROTETRAFLUORETHANE	170.92	0.01	
43842	76-15-3	CHLOROPENTAFLUOROETHANE	154.47	0.02	
43843	76-16-4	HEXAFLUOROETHANE	138.01	0.40	
43844	75-46-7	TRIFLUOROMETHANE	70.01	0.30	
43845	75-72-9	CHLOROTRIFLUOROMETHANE	104.46	0.05	
43860	75-01-4	VINYL CHLORIDE	62.50	0.42	

VOC Profile Speciation Report - continued (profile 0000)

Saroad	CAS Number	Name	Spec_MW	Spec_WT	Peak
43862	126-99-8	CHLOROPRENE	88.54	0.34	
43863	106-89-8	EPICHLOROHYDRIN	92.53	0.42	
43902	75-08-1	ETHYL MERCAPTAN	62.13	0.33	
43933	433-58-1	CARBONYL SULFIDE	60.08	0.03	
43934	75-15-0	CARBON SULFIDE	76.13	0.09	
43950	556-67-2	OCTAMETHYLCYCLOTETRASILOXANE	296.62	0.01	
43951		SILOXANE	76.08	0.00	
45101	8030-30-6	NAPHTHA	114.00	0.47	
45102	1330-20-7	ISOMERS OF XYLENE	106.16	0.70	
45104		ISOMERS OF ETHYLTOLUENE	120.19	0.04	
45105		ISOMERS OF BUTYLBENZENE	134.22	0.06	
45106		ISOMERS OF DIETHYLBENZENE	134.21	0.03	
45107	25551-13-7	TRIMETHYLBENZENE	120.19	0.11	
45108		ISOMERS OF PROPYLBENZENE	120.19	0.02	
45109		C3/C4/C5 ALKYLBENZENES	134.21	0.03	
45110		C10 AROMATIC	134.22	0.01	
45201	71-43-2	BENZENE	78.11	2.82	
45202	108-88-3	TOLUENE	92.13	2.04	
45203	100-41-4	ETHYLBENZENE	106.16	0.65	
45204	95-47-6	O-XYLENE	106.16	0.59	
45205	108-38-3	M-XYLENE	106.16	0.57	
45206	106-42-3	P-XYLENE	106.16	0.40	
45207	108-67-8	1,3,5-TRIMETHYLBENZENE	120.19	0.03	
45208	95-63-6	1,2,4-TRIMETHYLBENZENE	120.19	0.01	
45210	98-82-8	CUMENE (ISOPROPYL BENZENE)	120.20	0.38	
45212	620-14-4	M-ETHYLTOLUENE	120.19	0.03	
45220	100-42-5	STYRENE	104.14	1.20	
45221	25013-15-4	METHYL STYRENE	118.19	0.41	
45226	92-52-4	BIPHENYL	154.21	0.01	
45228		ETHYL STYRENE	132.21	0.03	
45232	103-29-7	DIPHENYL ETHANE	182.27	0.00	
45233		ETHYL-PHENYL-PHENYL-ETHANE	210.32	0.01	
45236		DIISOPROPYL BENZENE	162.28	0.38	
45238		ETHYLTOLUENE	120.19	0.02	
45243		ETHYLDIMETHYLBENZENE	134.22	0.00	
45244		TETRAMETHYLBENZENE	134.22	0.00	
45245		C5-ALKYLBENZENES	148.24	0.00	
45300	108-95-2	PHENOL	94.11	0.44	
45401		XYLENE BASE ACIDS	230.00	0.00	
45402	65-85-0	BENZOIC ACID	122.13	0.04	
45403	100-21-0	TEREPHTHALIC ACID	166.14	0.00	
45451	131-11-3	DIMETHYL PHTHALATE	194.19	0.06	
45452	84-74-2	DIBUTYL PHTHALATE	278.35	0.04	
45455	136-60-7	BUTYL BENZOATE	178.23	0.21	
45456		BUTYLISOPROPYLPHTHALATE	264.32	0.05	
45477	85-68-7	BUTYLBENZYLPHTHALATE	312.39	0.00	
45501	100-52-7	BENZALDEHYDE	106.13	0.02	
45502	104-87-0	P-TOLUALDEHYDE	120.16	0.00	
45503	98-01-1	2-FURFURAL	96.09	0.37	
45601	85-44-9	PHTHALIC ANHYDRIDE	148.12	0.20	
45605	1319-77-3	CRESOL	108.14	0.38	
45701	62-53-3	ANILINE	93.13	0.79	

VOC Profile Speciation Report - continued (profile 0000)

Saroad	CAS Number	Name	Spec_MW	Spec_WT	Peak
45702	98-95-3	NITROBENZENE	123.11	0.33	
45703		2,2 DICHLORONITROANILINE	207.02	0.01	
45705		BROMODINITROBENZENE	247.02	0.01	
45731	58-84-9	TOLUENE DIISOCYANATE	174.17	0.66	
45740		TOTAL AROMATIC AMINES	93.13	0.04	
45750	504-60-9	PIPERYLENE	68.12	0.40	
45801	108-90-7	CHLOROBENZENE	112.56	0.71	
45805	95-50-1	O-DICHLOROBENZENE	147.01	0.40	
45807	106-46-7	P-DICHLOROBENZENE	147.01	0.72	
45808	2531-22-6	DICHLOROBENZENES	147.01	0.02	
45810	100-44-7	BENZYL CHLORIDE	126.59	0.42	
45830		TRICHLOROBENZENES	181.45	0.01	
46102	84-65-1	ANTHRAQUINONE	208.23	0.01	
46112	103-71-9	PHENYL ISOCYANATE	119.13	0.12	
46114	100-61-8	4-METHYLANILINE	107.17	0.03	
46210	8001-58-9	CREOSOTE	130.19	0.37	
46701	91-12-3	NAPTHALENE	128.17	0.18	
46702		METHYL NAPHTHALENES	142.20	0.04	
46705	208-96-8	ACENAPHTHYLENE	152.20	0.02	
46706	83-32-9	ACENAPHTHENE	154.21	0.00	
46707	86-73-7	FLUORENE	166.22	0.01	
46708	85-01-8	PHENANTHRENE	178.23	0.06	
46710	206-44-0	FLUORANTHENE	202.26	0.01	
46711		C2 ALKYL INDAN	146.23	0.04	
46713	129-00-0	PYRENE	202.26	0.01	
46714		BENZO(g,h,i) FLUORANTHENE	252.32	0.00	
46715	218-01-9	CHRYSENE	228.29	0.01	
46717	205-99-2	BENZO (b) FLUORANTHENE	252.32	0.00	
90001	112-41-4	DODECENE	168.32	0.50	
90010		M-XYLENE AND P-XYLENE	106.16	0.13	
90011		METHYLALLENE	54.09	0.40	
90014	8720-50-9	1-DECENE	140.27	0.01	
90019		C6H18O3SI3	222.47	0.09	
90020		C8H24O4SI4	296.60	0.03	
90021		METHYLPROPANE	58.12	0.01	
90026		METHYLPENTANE	86.17	0.01	
90028		METHYLHEXANE	100.20	0.03	
90030	544-76-3	HEXADECANE	226.45	0.01	
90047		METHYLNONANE	142.28	0.02	
90048		METHYLDECANES	156.32	0.02	
90049		METHYLUNDECANE	170.34	0.01	
90050	5794-03-6	CAMPHENE	136.24	0.01	
90051	123-35-3	MYRCENE	136.24	0.01	
90052		B-PHELLANDRENE	136.24	0.01	
90053	5989-27-5	D-LIMONENE	136.24	0.05	
90060	79-29-8	DIMETHYLBUTANE	86.18	0.01	
90064		DIMETHYLCYCLOPENTANE	98.19	0.01	
90067		DIMETHYLHEXANES	114.23	0.00	
90070		DIMETHYLOCTANES	142.28	0.03	
90072		METHYLPROPYLCYCLOHEXANES	140.27	0.01	
90076		DIMETHYLNONANES	156.31	0.00	
90081		ETHYLHEXANE	114.23	0.02	

VOC Profile Speciation Report - continued (profile 0000)

Saroad	CAS Number	Name	Spec_MW	Spec_WT	Peak
90083		ETHYLMETHYLCYCLOHEXANES	126.24	0.02	
90094		TRIMETHYLHEPTANES	142.29	0.02	
90101	1678-93-9	BUTYLCYCLOHEXANE	140.27	0.01	
90104		METHYLOCTANES	128.26	0.01	
90120		PROPYLCYCLOHEXANE	126.24	0.01	
98054	107-39-1	2,4,4-TRIMETHYL-1-PENTENE	112.22	0.01	
98057	1640-89-7	ETHYLCYCLOPENTANE	98.19	0.01	
98058		TRIMETHYLCYCLOPENTANE	112.16	0.01	
98059		DIMETHYLCYCLOHEXANE	112.24	0.05	
98060	3073-66-3	TRIMETHYLCYCLOHEXANES	126.27	0.02	
98062		DIETHYLCYCLOHEXANE	140.27	0.03	
98063		N-PENTYLCYCLOHEXANE	154.30	0.01	
98082		ETHYLHEPTENE	126.24	0.01	
98083		TRIMETHYLDECENE	182.35	0.02	
98090		METHYLHEPTENE	112.22	0.00	
98091		DIMETHYLHEPTANES	128.26	0.00	
98106		ETHYLISOPROPYL ETHER	88.15	0.02	
99912		1-METHYL-3-ETHYLBENZENE	120.19	0.00	
99918		2-METHYLDECANE	156.32	0.00	
99933		DENATURANT	32.04	0.10	
99999		UNIDENTIFIED	86.00	0.25	
TOTAL				99.96	

APPENDIX C

VOC PROFILE ASSIGNMENTS

APPENDIX C
VOC PROFILE ASSIGNMENTS

The activities where VOC species profiles are applied typically employ Source Classification Codes (SCC's) for point sources and area source codes from the National Emissions Data System (NEDS) to represent the emission source categories. Ideally, each source category would be characterized by an appropriate VOC (and/or PM) profile. However, there are a limited number of VOC species profiles that represent a relatively small number of source categories. To increase the usefulness of a given VOC profile and to characterize those source categories for which there are no profiles, VOC profile assignments are made based on engineering judgement.

For several SCC's in the Criteria Pollutant Emission Factor document, the VOC emission factor is designated as "zero" or "negligible." Profile 0000 was assigned to these categories. As described in Appendix B, Profile 0000 is an overall average of all the profiles in the VOC species profile data base. It is intended for use as a default profile in large-scale computer applications of the VOC data base for developing emission inventories. In such applications, the "zero" profile will not be used unless nonzero VOC emissions are reported by the States or any other agency for an SCC which is designated in the Criteria Pollutant Emission Factor document as having a "zero" or "negligible" emission factor. For some SCC's, profile assignments were made although the VOC emission factor was "zero" or "negligible." These SCC's involved profiles with high data quality levels.

There were several cases where it was not possible to make an assignment based on engineering judgement. For these cases, industry-specific average profiles were developed from original profiles representing individual SCC's within the particular industry group.

Table C-1 is the listing of all the point source categories that are characterized by the VOC profiles included in this document. Descriptions of the source categories represented by SCC's can be obtained from "Criteria Pollutant Emission Factors for the 1985 NAPAP Emissions Inventory" (EPA-600/

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7-87-015). Table C-2 is the listing for the area source codes. In addition to the area source codes from NEDS, profile assignments are provided for additional area source codes used in the National Acid Precipitation Assessment Program (NAPAP). A listing of area source codes and their descriptions are presented in Table C-3.

The entry "Data Quality" in the two tables is based on the Profile Data Quality description. Where the VOC profile assignment is based on an original profile, this parameter reflects the Profile Data Quality as it appears in Section 3. In cases where the assignment is based on engineering judgement (as indicated by an asterisk [*]), the data quality is lowered one or more levels, depending on how well the profile represents the "new" source category. If an original profile represents a pure compound, then the data quality is kept the same when this profile is used to represent the source categories describing the storage of that compound. For industry-specific average profiles, the data quality level associated with the assignment is "E." These profiles are recommended for use only if there is no other information available.

TABLE C-1. POINT SOURCE PROFILE ASSIGNMENTS

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SCC	PROFILE NUMBER	QUALITY
10100101	1178*	E
10100102	1178*	E
10100201	1178*	E
10100202	1178	E
10100203	1178*	E
10100204	1178*	E
10100205	1178*	E
10100212	1178*	E
10100217	1178*	E
10100221	1178*	E
10100222	1178*	E
10100223	1178*	E
10100224	1178*	E
10100225	1178*	E
10100226	1178*	E
10100301	1178*	E
10100302	1178*	E
10100303	1178*	E
10100304	1178*	E
10100306	1178*	E
10100401	0001	B
10100404	0001*	C
10100405	0001*	C
10100406	0001*	C
10100501	0002	B
10100504	0002*	C
10100505	0002*	C
10100601	0003	B
10100602	0003*	C
10100604	0003*	C
10100701	0004*	D
10100702	0004*	D
10100801	0005*	C
10100901	1084*	E
10100902	1084*	E
10100903	1084*	E
10101001	0003*	C
10101002	0003*	C
10101101	0003*	C
10101201	0122*	E
10101301	0122*	E
10101302	0001*	C

TABLE C-1. (Continued)

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SCC	PROFILE NUMBER	QUALITY
10200101	1185*	E
10200104	1185*	E
10200107	1185*	E
10200201	1185*	E
10200202	1185*	E
10200203	1185*	E
10200204	1185	D
10200205	1185*	E
10200206	1185*	E
10200210	1185*	E
10200212	1185*	E
10200213	1085	C
10200217	1185*	E
10200219	1185*	E
10200221	1185*	E
10200222	1185*	E
10200223	1185*	E
10200224	1185*	E
10200225	1185*	E
10200226	1185*	E
10200229	1185*	E
10200301	1185*	E
10200302	1185*	E
10200303	1185*	E
10200304	1185*	E
10200306	1185*	E
10200307	1185*	E
10200401	0001	B
10200402	0001*	C
10200403	0001*	C
10200404	0001*	C
10200405	0001*	C
10200501	0002	B
10200502	0002*	C
10200503	0002*	C
10200504	0002*	C
10200505	0002*	C
10200601	0003	B
10200602	0003*	C
10200603	0003*	C
10200604	0003*	C
10200701	0004	C

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SCC	PROFILE NUMBER	QUALITY
10200704	0004*	D
10200707	0005	B
10200710	0004*	D
10200799	0004*	D
10200802	0005*	C
10200804	0005*	C
10200901	1084*	E
10200902	1084*	E
10200903	1084*	E
10200904	1084*	E
10200905	1084*	E
10200906	1084*	E
10200907	1084*	E
10201001	0003*	C
10201002	0003*	C
10201101	1084*	E
10201201	0122*	E
10201301	0122*	E
10201302	0001*	C
10201401	0003*	C
10201402	0004*	D
10201403	0002*	C
10201404	0001*	C
10300101	1178*	E
10300102	1178*	E
10300103	1178*	E
10300205	1178*	E
10300206	1178*	E
10300207	1178*	E
10300208	1178*	E
10300209	1178*	E
10300211	1178*	E
10300214	1178*	E
10300216	1178*	E
10300217	1178*	E
10300221	1178*	E
10300222	1178*	E
10300223	1178*	E
10300224	1178*	E
10300225	1178*	E
10300226	1178*	E
10300305	1178*	E

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SCC	PROFILE NUMBER	QUALITY
10300306	1178*	E
10300307	1178*	E
10300309	1178*	E
10300401	0001	B
10300402	0001*	C
10300403	0001*	C
10300404	0001*	C
10300501	0002	B
10300502	0002*	C
10300503	0002*	C
10300504	0002*	C
10300601	0003	B
10300602	0003*	C
10300603	0003*	C
10300701	0004*	D
10300799	0004*	D
10300901	1084*	D
10300902	1084*	D
10300903	1084*	D
10301001	0003*	C
10301002	0003*	C
10301201	0122*	E
10301301	0122*	E
10301302	0001*	C
10301303	0122*	E
10500102	1178*	E
10500105	0002*	C
10500106	0003	B
10500110	0003*	E
10500202	1178*	E
10500205	0002	B
10500206	0003	B
10500209	1084*	D
10500210	0003*	C
20100101	1098*	C
20100102	0009	D
20100201	0007*	D
20100202	1001	C
20100702	1001*	D
20100901	1098*	C
20100902	1098*	C
20101001	0000*	E

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SCC	PROFILE NUMBER	QUALITY
20200101	1098*	C
20200102	0009	D
20200103	1098*	C
20200104	0009*	E
20200201	0007	C
20200202	1001	C
20200203	0007*	D
20200204	1001	C
20200301	1101*	C
20200401	0008	C
20200402	1201*	D
20200403	1201*	D
20200501	0009*	E
20200901	1098*	C
20200902	1098*	C
20201001	1001*	D
20201002	1001*	D
20300101	0009	D
20300102	1098*	C
20300201	1001	C
20300202	1001*	D
20300301	1101*	C
20301001	1001*	D
20301002	1001*	D
20400101	1098*	C
20400102	1098*	C
20400201	9002*	E
20400301	0007*	D
20400302	1001*	D
20400401	1101*	C
20400402	0008	C
28888801	9002*	E
28888802	9002*	E
28888803	9002*	E
30100101	1110*	E
30100102	1110*	E
30100103	0299*	E
30100104	0000*	E
30100105	1110*	E
30100106	0000*	E
30100107	1110*	E
30100108	0000*	E

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SCC	PROFILE NUMBER	QUALITY
30100109	0000*	E
30100180	1110*	E
30100199	1110*	E
30100305	9004*	E
30100306	0003*	C
30100307	0001*	C
30100308	9004*	E
30100309	9004*	E
30100399	9004*	E
30100501	1002*	E
30100502	0000*	E
30100503	1002*	E
30100504	1002	D
30100506	0000*	E
30100507	0003*	C
30100508	0000*	E
30100509	0000*	E
30100599	1002*	E
30100601	0307*	E
30100603	0307*	E
30100604	0307*	E
30100605	0000*	E
30100699	9004*	E
30100799	9004*	E
30100801	0000*	E
30100802	0000*	E
30100803	0000*	E
30100804	0000*	E
30100805	0000*	E
30100899	9004*	E
30100901	9017*	E
30100902	9017*	E
30100910	9017*	E
30100999	9017*	E
30101011	0000*	E
30101012	0000*	E
30101013	0000*	E
30101014	0000*	E
30101015	0122*	E
30101021	0000*	E
30101022	0000*	E
30101023	0122*	E

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SCC	PROFILE NUMBER	QUALITY
30101030	0122*	E
30101099	0122*	E
30101101	0000*	E
30101198	0000*	E
30101199	9004*	E
30101202	0003*	E
30101203	0000*	E
30101204	0000*	E
30101205	0000*	E
30101206	9004*	E
30101299	9004*	E
30101301	0000*	E
30101302	0000*	E
30101303	0000*	E
30101304	0000*	E
30101399	9004*	E
30101401	1094	D
30101402	0000*	E
30101499	1094*	E
30101501	0066	D
30101502	0066*	E
30101503	0066*	E
30101505	0066*	E
30101599	0066*	E
30101601	0000*	E
30101602	0000*	E
30101603	0000*	E
30101699	9004*	E
30101702	0000*	E
30101703	0000*	E
30101704	0000*	E
30101705	0000*	E
30101706	0000*	E
30101707	0000*	E
30101708	0000*	E
30101799	9004*	E
30101801	1091	C
30101802	0068	E
30101803	0068*	D
30101805	1056*	E
30101807	1056*	E
30101808	1056*	E

TABLE C-1. (Continued)

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SCC	PROFILE NUMBER	QUALITY
30101809	1056*	E
30101810	1056*	E
30101811	1056*	E
30101812	1056*	E
30101813	1056*	E
30101814	1056*	E
30101815	0000*	E
30101816	0000*	E
30101817	1004	D
30101818	0000*	E
30101819	1004*	E
30101820	0000*	E
30101821	0000*	E
30101822	1009*	E
30101827	1009*	E
30101832	1004*	E
30101837	1005	E
30101838	1005*	E
30101839	1005*	E
30101840	1005*	E
30101842	1005*	E
30101847	1005*	E
30101849	1009	E
30101852	1040*	E
30101860	1056*	E
30101861	1056*	E
30101863	1056*	E
30101864	0000*	E
30101865	0000*	E
30101866	0000*	E
30101870	1005*	E
30101871	0000*	E
30101872	1005*	E
30101880	1005*	E
30101881	0000*	E
30101882	0000*	E
30101883	0000*	E
30101884	0000*	E
30101885	1005*	E
30101890	9005*	E
30101891	9005*	E
30101892	9005*	E

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SCC	PROFILE NUMBER	QUALITY
30101893	9005*	E
30101894	9005*	E
30101899	9005*	E
30101901	1006	E
30101902	0000*	E
30101904	1006*	E
30101905	0000*	E
30101906	0000*	E
30101907	1006*	E
30102001	0072	D
30102002	9026*	E
30102003	9026*	E
30102004	9026*	E
30102005	9026*	E
30102099	9026*	E
30102101	0000*	E
30102102	0000*	E
30102103	0000*	E
30102104	0003*	C
30102105	1185*	E
30102106	0000*	E
30102107	0000*	E
30102108	0000*	E
30102110	0003*	C
30102111	0003*	C
30102112	0000*	E
30102113	0000*	E
30102120	0003*	C
30102199	9004*	E
30102201	0000*	E
30102301	0000*	E
30102304	0000*	E
30102306	0000*	E
30102308	0000*	E
30102310	0000*	E
30102312	0000*	E
30102314	0000*	E
30102316	0000*	E
30102318	0000*	E
30102319	0000*	E
30102320	0000*	E
30102321	0000*	E

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SCC	PROFILE NUMBER	QUALITY
30102322	0000*	E
30102399	0000*	E
30102401	1092	D
30102402	1005*	E
30102405	1040*	E
30102410	1009*	E
30102414	0068*	E
30102415	1091*	E
30102416	1061*	E
30102421	9006*	E
30102422	9006*	E
30102423	9006*	E
30102424	9006*	E
30102425	0000*	E
30102426	0000*	E
30102427	9006*	E
30102499	9006*	E
30102501	0000*	E
30102505	1045*	E
30102599	0000*	E
30102601	0274	C
30102602	0274*	D
30102608	0274*	D
30102609	0274*	D
30102610	0000*	E
30102611	0000*	E
30102612	0000*	E
30102613	0274*	D
30102614	0274*	D
30102615	0274*	D
30102616	0274*	D
30102617	0274*	D
30102625	0274*	D
30102630	0274*	D
30102699	0274*	D
30102701	0000*	E
30102704	0000*	E
30102705	0000*	E
30102706	0000*	E
30102707	0000*	E
30102708	0000*	E
30102709	0000*	E

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SCC	PROFILE NUMBER	QUALITY
30102710	0000*	E
30102711	0000*	E
30102712	0000*	E
30102713	0000*	E
30102714	0000*	E
30102717	0000*	E
30102718	0000*	E
30102720	0000*	E
30102721	0000*	E
30102722	0000*	E
30102723	0000*	E
30102724	0000*	E
30102725	0000*	E
30102727	0000*	E
30102728	0000*	E
30102729	0000*	E
30102730	0000*	E
30102801	0000*	E
30102803	0000*	E
30102804	0000*	E
30102805	0000*	E
30102806	0000*	E
30102807	0000*	E
30102820	0000*	E
30102821	0000*	E
30102822	0000*	E
30102823	0000*	E
30102824	0000*	E
30102825	0000*	E
30102903	0000*	E
30102904	0000*	E
30102905	0000*	E
30102906	0000*	E
30102907	0000*	E
30102908	0000*	E
30102920	0000*	E
30102921	0000*	E
30102922	0000*	E
30102923	0000*	E
30102924	0000*	E
30102925	0000*	E
30103001	0003*	D

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SCC	PROFILE NUMBER	QUALITY
30103002	0000*	E
30103003	0000*	E
30103004	0000*	E
30103020	0000*	E
30103021	0000*	E
30103022	0000*	E
30103023	0000*	E
30103024	0000*	E
30103025	0000*	E
30103099	0000*	E
30103101	1024*	E
30103102	1024*	E
30103103	1023	D
30103104	1024	D
30103105	1025	E
30103199	1024*	E
30103201	9004*	E
30103202	9004*	E
30103203	9004*	E
30103204	9004*	E
30103299	9004*	E
30103301	0076*	D
30103311	0076	C
30103312	0076	C
30103399	0076*	D
30103402	1036*	E
30103403	1036*	E
30103404	1036*	E
30103405	1036*	E
30103406	1036*	E
30103410	1036*	E
30103411	0000*	E
30103412	0000*	E
30103414	1092*	E
30103415	1132*	E
30103420	1092*	D
30103425	1092*	E
30103430	1132*	E
30103435	1092*	E
30103499	1092*	E
30103501	0000*	E
30103502	0000*	E

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SCC	PROFILE NUMBER	QUALITY
30103503	0000*	E
30103506	0000*	E
30103507	0000*	E
30103510	0000*	E
30103515	0000*	E
30103520	0000*	E
30103550	0000*	E
30103551	0000*	E
30103552	0000*	E
30103553	0000*	E
30103554	0000*	E
30103599	9004*	E
30103801	9004*	E
30103901	9004*	E
30103902	0000*	E
30103903	0000*	E
30104001	0000*	E
30104002	0000*	E
30104003	0000*	E
30104004	9004*	E
30104005	0000*	E
30104006	0000*	E
30104007	0000*	E
30104008	0000*	E
30104009	0000*	E
30104010	9004*	E
30104011	9004*	E
30104012	0000*	E
30104013	0000*	E
30104101	0000*	E
30104102	0000*	E
30104103	0000*	E
30104104	0000*	E
30104199	0000*	E
30104201	0000*	E
30104202	0000*	E
30104203	0000*	E
30104204	0202*	D
30104301	0000*	E
30104501	0000*	E
30105001	9021*	E
30106001	9004*	E

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SCC	PROFILE NUMBER	QUALITY
30106002	0000*	E
30106003	9004*	E
30106004	9004*	E
30106005	9004*	E
30106006	9004*	E
30106007	9004*	E
30106008	9004*	E
30106009	9004*	E
30106010	9004*	E
30106011	9004*	E
30106012	9004*	E
30106099	9004*	E
30107001	0000*	E
30107002	0000*	E
30109101	1028*	E
30109105	1027	E
30109110	1027*	E
30109151	1028*	E
30109152	1028*	E
30109153	1028	D
30109154	1029	D
30109180	1028*	E
30109199	0221*	E
30110002	1062	D
30110003	1062*	E
30110004	0000*	E
30110005	1062*	E
30110099	1062*	E
30111103	9011*	E
30111199	9011*	E
30111201	0000*	E
30111202	0000*	E
30111299	9004*	E
30112001	1030*	E
30112002	1030*	E
30112005	1030	D
30112006	1030*	E
30112007	1030*	E
30112011	1032*	E
30112012	1032*	E
30112013	1032*	E
30112014	1032*	E

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SCC	PROFILE NUMBER	QUALITY
30112017	1032*	E
30112021	1032*	E
30112031	1032*	E
30112032	1032*	E
30112033	1032	E
30112034	1032*	E
30112037	1032*	E
30112099	1033	D
30112199	1032*	E
30112401	1034*	E
30112402	1034*	D
30112403	1034*	E
30112404	0000*	E
30112405	0000*	E
30112406	1035	E
30112407	1035	E
30112480	1034*	E
30112501	1038	D
30112502	0078	C
30112504	1039	C
30112505	0000*	E
30112506	1037	C
30112509	1038*	E
30112510	1070*	E
30112511	1070*	E
30112512	1070*	E
30112514	1070*	E
30112515	0000*	E
30112520	0085*	E
30112521	0085*	E
30112522	0085*	E
30112524	0085*	E
30112525	0087*	E
30112526	0087*	E
30112527	0087*	E
30112528	0087*	E
30112529	0087*	E
30112530	0271*	E
30112531	0271*	E
30112532	0271*	E
30112533	0271*	E
30112534	0271*	E

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SCC	PROFILE NUMBER	QUALITY
30112535	1072*	D
30112540	1091*	E
30112541	0000*	E
30112542	1091*	E
30112543	1091*	E
30112544	1091*	E
30112545	1091*	E
30112546	1091*	E
30112547	0000*	E
30112550	1091*	E
30112551	1091*	E
30112552	1091*	E
30112553	1091*	E
30112555	1091*	E
30112599	0078	C
30112699	9004*	E
30112701	1040	D
30112702	1041	D
30112703	0000*	E
30112720	1090	D
30112730	1093	D
30112740	0277*	E
30112780	1042	E
30113004	0003*	E
30113005	0003*	E
30113201	1070*	E
30113205	9004*	E
30113210	1032*	E
30113221	1043*	E
30113222	1043*	E
30113223	1043*	E
30113224	1043*	E
30113227	1043*	E
30113299	1044	D
30113301	1045*	E
30113302	1045*	E
30113303	1045	D
30113380	1045*	E
30113701	1046*	C
30113710	1047	E
30113799	9004	E
30114001	0000*	E

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SCC	PROFILE NUMBER	QUALITY
30114002	0000*	E
30114003	0000*	E
30114004	1120	E
30114005	1120	E
30115201	0000*	E
30115301	1034*	E
30115310	1034*	E
30115311	1034*	E
30115312	1034*	E
30115320	1034*	E
30115321	1034*	E
30115322	1034*	E
30115380	1034*	E
30115601	1048*	D
30115602	1062*	E
30115603	1048*	D
30115604	1048*	D
30115605	1062*	E
30115606	1048	C
30115607	1048*	D
30115680	1048*	D
30115701	1049	D
30115702	0000*	E
30115704	0000*	E
30115780	1049*	E
30115801	1050*	E
30115802	1050*	E
30115803	1050*	E
30115821	1050*	E
30115822	1050	E
30115880	1050*	E
30116701	1052*	D
30116702	1051	C
30116703	1052	C
30116704	1053	E
30116780	1052*	D
30116799	1054	E
30116901	1062*	E
30116902	0000*	E
30116903	0000*	E
30116904	0000*	E
30116905	0000*	E

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SCC	PROFILE NUMBER	QUALITY
30116906	0000*	E
30116980	1062*	E
30117401	1057*	E
30117402	1057*	E
30117410	1056	D
30117411	1057	D
30117421	1058	E
30117480	1057*	E
30117601	9004*	E
30117610	9004*	E
30117611	0000*	E
30117612	0000*	E
30117613	0000*	E
30117614	0000*	E
30117615	0000*	E
30117616	9004*	E
30117617	0000*	E
30117618	9004*	E
30117630	9004*	E
30117631	9004*	E
30117632	9004*	E
30117633	9004*	E
30117634	9004*	E
30117680	9004*	E
30118101	1176*	E
30118102	1176*	E
30118103	1176*	E
30118104	1176*	E
30118105	1176*	E
30118106	1077*	E
30118107	1176*	E
30118108	1176*	E
30118109	0000*	E
30118110	0000*	E
30118180	1176*	E
30119001	1059*	E
30119002	1059*	E
30119003	1059*	E
30119004	1059*	E
30119010	1059	D
30119011	1059*	E
30119012	1059	D

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SCC	PROFILE NUMBER	QUALITY
30119013	1060	E
30119014	1060	E
30119080	1059*	E
30119501	1062*	E
30119502	1061	E
30119503	1062*	E
30119504	1061	E
30119505	1062	D
30119506	1062*	E
30119580	1062*	E
30119701	1064*	E
30119705	9004*	E
30119706	0000*	E
30119707	9004*	E
30119708	9004*	E
30119709	9004*	E
30119710	9004*	E
30119741	1064*	E
30119742	0000*	E
30119743	1064*	E
30119744	0000*	E
30119745	1064	C
30119749	1064*	E
30119799	9004*	E
30120201	1082*	E
30120202	1082*	D
30120203	1082*	D
30120204	1082*	D
30120205	1029*	D
30120206	1082*	D
30120210	1082*	D
30120211	1082*	D
30120280	1082*	D
30120501	1065*	E
30120502	1065	D
30120503	1065*	E
30120504	1065*	E
30120505	1065*	D
30120506	1065*	E
30120507	1065*	E
30120508	1065*	E
30120509	0000*	E

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SCC	PROFILE NUMBER	QUALITY
30120520	1173*	E
30120521	1173*	E
30120522	1173*	E
30120523	0000*	E
30120524	1173*	E
30120525	1173*	E
30120526	1173*	E
30120527	1173*	E
30120528	1173*	E
30120529	1173*	E
30120530	1173*	E
30120531	1173*	E
30120532	1173*	E
30120540	1173*	E
30120541	1173*	E
30120542	1173*	E
30120543	0000*	E
30120544	1173*	E
30120545	1173*	E
30120546	0068*	D
30120547	1173*	E
30120548	1173*	E
30120549	1173*	E
30120550	1173*	E
30120551	1173*	E
30120552	1173*	E
30120553	1173*	E
30120554	1173*	E
30120555	1173*	E
30120580	1173*	E
30120601	1066	D
30120602	1067	D
30120603	1068	E
30120680	1066*	E
30121001	9004*	E
30121002	9004*	E
30121003	9004*	E
30121004	0000*	E
30121005	9004*	E
30121006	9004*	E
30121007	9004*	E
30121008	9004*	E

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SCC	PROFILE NUMBER	QUALITY
30121009	9004*	E
30121010	9004*	E
30121080	9004*	E
30121101	1062*	E
30121102	1062*	E
30121103	1062*	E
30121104	1062	D
30121121	1062*	E
30121122	1062*	E
30121123	1062	D
30121124	1062*	E
30121125	1062*	E
30121180	1062*	E
30125001	1070*	E
30125002	1070	C
30125003	1071	D
30125004	1070*	D
30125005	0226*	E
30125010	0226*	E
30125015	0000*	E
30125020	9007*	E
30125021	9007*	E
30125025	9007*	E
30125099	9007*	E
30125101	1078*	E
30125102	1078*	E
30125103	1078*	E
30125104	0000*	E
30125180	1078*	E
30125201	1136*	E
30125301	9004*	E
30125302	9004*	E
30125305	1070*	D
30125306	1070*	D
30125315	0226*	E
30125316	0226*	E
30125325	1027*	E
30125326	1027*	E
30125380	9004*	E
30125401	9004*	E
30125405	1109*	E
30125406	1009*	E

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SCC	PROFILE NUMBER	QUALITY
30125407	1109*	E
30125408	1109*	E
30125409	1109*	E
30125410	1110*	E
30125411	0000*	E
30125412	1110*	E
30125413	1110*	E
30125415	1034*	E
30125416	1110*	E
30125417	0000*	E
30125418	1110*	E
30125420	1110*	E
30125499	9004*	E
30125801	1073*	E
30125802	1073*	E
30125803	1062*	D
30125805	0090*	E
30125806	0090*	E
30125807	0090*	E
30125810	1174*	E
30125815	0223*	E
30125816	0223*	E
30125817	0223*	E
30125880	0223*	E
30125899	0223*	E
30130101	1072	D
30130102	1073	D
30130103	1073*	E
30130104	1072*	E
30130105	1074	D
30130106	1075	D
30130107	1076	E
30130108	1077	E
30130110	0000*	E
30130135	1072*	E
30130180	1072*	E
30130201	1119*	E
30130202	1119*	E
30130203	1119*	E
30130280	1119*	E
30130301	9004*	E
30130302	9004*	E

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SCC	PROFILE NUMBER	QUALITY
30130303	9004*	E
30130304	9004*	E
30130305	9004*	E
30130380	9004*	E
30130401	9004*	E
30130402	9004*	E
30130403	9004*	E
30130404	9004*	E
30130405	9004*	E
30130480	9004*	E
30130501	1131*	E
30130502	1131*	E
30130503	1131*	E
30130504	1131*	E
30130505	1131*	E
30130580	1131*	E
30180001	9004*	E
30181001	9004*	E
30182001	9004*	E
30183001	9004*	E
30184001	9004*	E
30187001	0000*	E
30187002	0000*	E
30187003	0000*	E
30187004	0000*	E
30187005	0000*	E
30187006	0000*	E
30187007	0000*	E
30187008	0000*	E
30187009	0000*	E
30187010	0000*	E
30187097	0000*	E
30187098	0000*	E
30187501	0000*	E
30187502	0000*	E
30187597	0000*	E
30187598	0000*	E
30188501	0000*	E
30188502	0000*	E
30188503	0000*	E
30188504	0000*	E
30188505	0000*	E

TABLE C-1. (Continued)

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SCC	PROFILE NUMBER	QUALITY
30188599	0000*	E
30188801	9004*	E
30188802	9004*	E
30188803	9004*	E
30188804	9004*	E
30188805	9004*	E
30190001	0002*	C
30190002	0001*	C
30190003	0003*	C
30190004	0004*	D
30190011	0002*	C
30190012	0001*	C
30190013	0003*	C
30190014	0004*	D
30190099	0079	D
30199998	9004*	E
30199999	9004*	E
30200101	9008*	E
30200102	0000*	E
30200103	0000*	E
30200104	0000*	E
30200199	9008*	E
30200201	1032*	E
30200202	1032*	E
30200203	0000*	E
30200299	9008*	E
30200301	0000*	E
30200401	0000*	E
30200402	0000*	E
30200403	0000*	E
30200404	0000*	E
30200410	0000*	E
30200501	9008*	E
30200502	9008*	E
30200503	0000*	E
30200504	0000*	E
30200505	0000*	E
30200506	0000*	E
30200507	0000*	E
30200508	0000*	E
30200509	0000*	E
30200510	0000*	E

TABLE C-1. (Continued)

SCC	PROFILE NUMBER	QUALITY
30200511	0000*	E
30200512	0000*	E
30200601	9008*	E
30200602	9008*	E
30200603	0000*	E
30200604	0000*	E
30200605	0000*	E
30200606	0000*	E
30200607	0000*	E
30200608	0000*	E
30200609	0000*	E
30200610	0000*	E
30200611	0000*	E
30200699	9008*	E
30200701	9008*	E
30200702	9008*	E
30200703	0000*	E
30200704	0000*	E
30200705	0000*	E
30200711	0000*	E
30200712	0000*	E
30200713	0000*	E
30200714	0000*	E
30200721	0000*	E
30200722	0000*	E
30200723	0000*	E
30200724	0000*	E
30200731	0000*	E
30200732	0000*	E
30200733	0000*	E
30200734	0000*	E
30200741	0000*	E
30200742	0000*	E
30200743	0000*	E
30200744	0000*	E
30200745	0000*	E
30200751	0000*	E
30200752	0000*	E
30200753	0000*	E
30200754	0000*	E
30200755	0000*	E
30200756	0000*	E

TABLE C-1. (Continued)

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SCC	PROFILE NUMBER	QUALITY
30200760	0000*	E
30200771	0000*	E
30200772	0000*	E
30200773	0000*	E
30200774	0000*	E
30200781	0000*	E
30200782	0000*	E
30200783	0000*	E
30200784	0000*	E
30200785	0000*	E
30200786	0000*	E
30200787	0000*	E
30200788	0000*	E
30200789	0000*	E
30200790	0000*	E
30200791	0000*	E
30200799	9008*	E
30200801	9008*	E
30200802	0000*	E
30200803	0000*	E
30200804	0000*	E
30200805	0000*	E
30200806	0000*	E
30200899	9008*	E
30200901	0000*	E
30200902	1188*	D
30200903	0000*	E
30200904	0000*	E
30200905	0000*	E
30200998	1188*	D
30200999	1188*	D
30201001	0000*	E
30201002	1188	C
30201003	1188	C
30201004	1188	C
30201103	0000*	E
30201104	1188*	D
30201105	1188*	D
30201106	1188*	D
30201199	1188*	D
30201201	9008*	E
30201202	9008*	E

TABLE C-1. (Continued)

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SCC	PROFILE NUMBER	QUALITY
30201203	9008*	E
30201204	9008*	E
30201205	9008*	E
30201206	9008*	E
30201301	1084*	E
30201401	9008*	E
30201501	9008*	E
30201599	9008*	E
30201601	9008*	E
30201699	9008*	E
30201799	9008*	E
30201899	9008*	E
30201901	9008*	E
30201902	9008*	E
30201903	9008*	E
30201904	9008*	E
30201906	9008*	E
30201907	9008*	E
30201908	9008*	E
30201909	9008*	E
30201911	9008*	E
30201912	9008*	E
30201913	9008*	E
30201914	9008*	E
30201915	9008*	E
30201916	9008*	E
30201917	9008*	E
30201918	9008*	E
30201919	9008*	E
30201920	9008*	E
30201999	9008*	E
30202001	9008*	E
30202002	9008*	E
30202101	0000*	E
30202102	0000*	E
30202105	0000*	E
30202106	0000*	E
30202201	9008*	E
30202601	0000*	E
30202801	9008*	E
30203001	9008*	E
30203099	9008*	E

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SCC	PROFILE NUMBER	QUALITY
30203103	0000*	E
30203104	0000*	E
30203105	0000*	E
30203106	0000*	E
30203107	0000*	E
30203108	0000*	E
30203109	0000*	E
30203110	0000*	E
30203111	0000*	E
30203201	9008*	E
30203202	9008*	E
30203299	9008*	E
30203399	9008*	E
30203601	9008*	E
30203801	9008*	E
30288801	9008*	E
30288802	9008*	E
30288803	9008*	E
30288804	9008*	E
30288805	9008*	E
30290001	0002*	C
30290002	0001*	C
30290003	0003*	C
30299998	9008*	E
30299999	9008*	E
30300001	0000*	E
30300002	0025*	E
30300101	1202*	E
30300102	1202	D
30300103	1202	D
30300104	0000*	E
30300105	1202*	E
30300106	0000*	E
30300107	1202*	E
30300108	0000*	E
30300109	0000*	E
30300110	0000*	E
30300111	0000*	E
30300199	0011*	E
30300201	0003*	C
30300302	0011	C
30300303	0011	C

TABLE C-1. (Continued)

SCC	PROFILE NUMBER	QUALITY
30300304	0011	C
30300305	0011	C
30300306	0011	C
30300307	0000*	E
30300308	0011*	E
30300309	0000*	E
30300310	0000*	E
30300311	0000*	E
30300312	0000*	E
30300313	0011*	D
30300314	0011*	D
30300315	0000*	E
30300316	0000*	E
30300399	0011*	E
30300401	0011*	D
30300502	0016*	D
30300503	0016*	D
30300504	0000*	E
30300505	0000*	E
30300506	0016*	D
30300507	0016*	D
30300508	0000*	E
30300509	0000*	E
30300510	0000*	E
30300511	0000*	E
30300512	0000*	E
30300513	0000*	E
30300514	0000*	E
30300515	0000*	E
30300516	0000*	E
30300517	0000*	E
30300518	0000*	E
30300521	0000*	E
30300522	0000*	E
30300523	0000*	E
30300524	0000*	E
30300525	0000*	E
30300526	0000*	E
30300527	0000*	E
30300528	0000*	E
30300599	9009*	E
30300601	0016*	D

TABLE C-1. (Continued)

SCC	PROFILE NUMBER	QUALITY
30300602	0016*	D
30300603	0016*	D
30300604	0016*	D
30300605	0016*	D
30300610	0000*	E
30300611	0016*	D
30300613	0000*	E
30300614	0000*	E
30300615	0016*	D
30300616	0016*	D
30300617	0016*	D
30300699	0016*	D
30300701	0016*	D
30300702	0016*	D
30300703	0016*	D
30300704	0016*	D
30300801	0012	E
30300802	0012	E
30300804	0000*	E
30300805	0000*	E
30300808	0000*	E
30300809	0000*	E
30300811	0013*	D
30300812	0000*	E
30300813	0013	C
30300814	0000*	E
30300815	0000*	E
30300816	0000*	E
30300817	0000*	E
30300818	0000*	E
30300819	0013*	D
30300820	0000*	E
30300821	0000*	E
30300822	0013*	D
30300823	0000*	E
30300824	0013*	D
30300825	9009*	E
30300826	0000*	E
30300827	0000*	E
30300831	0000*	E
30300832	0000*	E
30300833	0000*	E

TABLE C-1. (Continued)

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SCC	PROFILE NUMBER	QUALITY
30300834	0000*	E
30300899	9009*	E
30300901	0014	C
30300904	0016*	D
30300906	0014*	D
30300907	0014*	D
30300908	0014*	D
30300910	0000*	E
30300911	0014*	D
30300912	0000*	E
30300913	0016	C
30300914	0016	C
30300915	1089*	C
30300916	0012*	D
30300917	0012*	D
30300918	0012*	D
30300919	0012*	D
30300921	1089*	C
30300922	0000*	E
30300923	1089*	C
30300924	0000*	E
30300925	1089*	C
30300931	1004*	E
30300932	0000*	E
30300933	1009*	E
30300934	0003*	D
30300935	1089*	C
30300936	1089*	C
30300998	9009*	E
30300999	9009*	E
30301001	0000*	E
30301002	0000*	E
30301003	0000*	E
30301004	0000*	E
30301005	0000*	E
30301006	0000*	E
30301007	0000*	E
30301008	0000*	E
30301009	1089*	C
30301010	0000*	E
30301011	0000*	E
30301012	0000*	E

TABLE C-1. (Continued)

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SCC	PROFILE NUMBER	QUALITY
30301013	0000*	E
30301014	0000*	E
30301015	0000*	E
30301016	0000*	E
30301017	0000*	E
30301018	0000*	E
30301019	0000*	E
30301020	0000*	E
30301021	0000*	E
30301022	0000*	E
30301023	0000*	E
30301024	0000*	E
30301025	0000*	E
30301026	0000*	E
30301099	9009*	E
30301101	0000*	E
30301102	0000*	E
30301199	9009*	E
30301201	0000*	E
30301202	0025*	E
30301299	0025*	E
30301301	0000*	E
30301401	0000*	E
30301402	0025*	E
30301403	0025*	E
30301499	9009*	E
30302301	0000*	E
30302302	0000*	E
30302303	0000*	E
30302304	0000*	E
30302305	0000*	E
30302306	0000*	E
30302307	0000*	E
30302308	0000*	E
30302309	0000*	E
30302310	0000*	E
30302311	0000*	E
30302312	0003*	D
30302313	0001*	D
30302314	1085*	D
30302315	0000*	E
30302316	0000*	E

TABLE C-1. (Continued)

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SCC	PROFILE NUMBER	QUALITY
30302321	0000*	E
30302322	0000*	E
30302401	0000*	E
30302402	0000*	E
30302403	0000*	E
30302404	0000*	E
30302405	0000*	E
30302406	0000*	E
30302407	0000*	E
30302408	0000*	E
30302409	0000*	E
30302410	0000*	E
30302411	0025*	E
30303002	0000*	E
30303003	0000*	E
30303005	0000*	E
30303006	0000*	E
30303007	0000*	E
30303008	0000*	E
30303009	0000*	E
30303010	0000*	E
30303011	0000*	E
30303012	0000*	E
30303014	0000*	E
30303015	0000*	E
30303016	0000*	E
30303099	9009*	E
30388801	9009*	E
30388802	9009*	E
30388803	9009*	E
30388804	9009*	E
30388805	9009*	E
30390001	0002*	C
30390002	0001*	C
30390003	0003*	C
30390004	0004*	D
30390011	0002*	C
30390012	0001*	C
30390013	0003*	C
30390014	0004*	D
30390023	0051*	E
30390024	0079*	E

TABLE C-1. (Continued)

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SCC	PROFILE NUMBER	QUALITY
30399999	9009*	E
30400101	1036*	E
30400102	1036*	E
30400103	1036*	E
30400104	0000*	E
30400105	0000*	E
30400106	0000*	E
30400107	0000*	E
30400108	0000*	E
30400109	1036*	E
30400110	9010*	E
30400111	9010*	E
30400112	9010*	E
30400113	9010*	E
30400114	1036	D
30400120	9010*	E
30400150	1036*	E
30400199	1036*	E
30400204	9010*	E
30400207	0025*	E
30400208	0011*	E
30400209	0003*	D
30400210	0012*	D
30400211	0012*	E
30400212	0012*	D
30400214	0014*	D
30400215	0014*	D
30400217	0014*	D
30400219	0014*	D
30400220	0014*	D
30400221	0000*	E
30400223	0000*	E
30400224	0000*	E
30400230	0000*	E
30400231	0000*	E
30400232	0000*	E
30400233	0000*	E
30400234	0000*	E
30400235	0000*	E
30400236	0000*	E
30400237	0000*	E
30400238	0000*	E

TABLE C-1. (Continued)

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SCC	PROFILE NUMBER	QUALITY
30400239	0000*	E
30400299	9010*	E
30400301	1089*	C
30400302	1089*	C
30400303	0000*	E
30400304	1089*	C
30400305	1089*	C
30400310	1089*	C
30400315	0000*	E
30400320	1089	B
30400325	1089*	C
30400330	1089*	C
30400331	1089*	C
30400332	1089*	C
30400333	1089*	C
30400340	0000*	E
30400341	0000*	E
30400342	0000*	E
30400350	0000*	E
30400351	1089*	C
30400352	0000*	E
30400353	1089*	C
30400354	1089*	C
30400355	1089*	C
30400356	0000*	E
30400357	0000*	E
30400358	0000*	E
30400360	0000*	E
30400370	1089*	C
30400371	1089*	C
30400398	9010*	E
30400399	9010*	E
30400401	0000*	E
30400402	0000*	E
30400403	0000*	E
30400404	0000*	E
30400405	0000*	E
30400406	1089*	D
30400407	1089*	D
30400408	0000*	E
30400409	0000*	E
30400410	0000*	E

TABLE C-1. (Continued)

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SCC	PROFILE NUMBER	QUALITY
30400411	0000*	E
30400412	0000*	E
30400413	0000*	E
30400414	0000*	E
30400499	9010*	E
30400501	9010*	E
30400505	0000*	E
30400506	0000*	E
30400507	0000*	E
30400508	0000*	E
30400509	0000*	E
30400510	0000*	E
30400511	0000*	E
30400512	0000*	E
30400513	0000*	E
30400521	0000*	E
30400522	0000*	E
30400523	0000*	E
30400524	0000*	E
30400525	0000*	E
30400526	0000*	E
30400527	0000*	E
30400528	0000*	E
30400599	9010*	E
30400601	1089*	D
30400699	9010*	E
30400701	0014*	D
30400702	0014*	D
30400703	0014*	D
30400704	0014*	D
30400705	0000*	E
30400706	0000*	E
30400707	0014*	D
30400708	1089*	C
30400709	1089*	C
30400710	1089*	C
30400711	0000*	E
30400712	0000*	E
30400713	0000*	E
30400714	1089*	C
30400715	1089*	C
30400716	0000*	E

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SCC	PROFILE NUMBER	QUALITY
30400717	1089*	C
30400718	1089*	C
30400720	1089*	C
30400721	0000*	E
30400722	0000*	E
30400723	0000*	E
30400724	0000*	E
30400725	0000*	E
30400726	0000*	E
30400730	1089*	C
30400731	1089*	C
30400799	1089*	B
30400801	0000*	E
30400802	1036*	E
30400803	1036*	E
30400805	1036*	E
30400806	1036*	E
30400807	1036*	E
30400809	1036*	E
30400810	1036*	E
30400811	1036*	E
30400812	0000*	E
30400814	0000*	E
30400818	0000*	E
30400824	1036*	E
30400828	1036*	E
30400834	1036*	E
30400838	1036*	E
30400840	0000*	E
30400841	1036*	E
30400842	1036*	E
30400843	1036*	E
30400851	0000*	E
30400852	0000*	E
30400853	0000*	E
30400854	0000*	E
30400855	0000*	E
30400861	1036*	E
30400862	1036*	E
30400863	1036*	E
30400864	1036*	E
30400865	1036*	E

TABLE C-1. (Continued)

SCC	PROFILE NUMBER	QUALITY
30400866	0000*	E
30400867	1036*	E
30400868	1036*	E
30400869	1036*	E
30400870	1036*	E
30400871	0000*	E
30400872	0000*	E
30400873	0000*	E
30400874	0000*	E
30400875	0000*	E
30400876	0000*	E
30400877	0000*	E
30400899	9010*	E
30400901	1036*	E
30400999	1036*	E
30401001	0003*	D
30401002	0000*	E
30401004	0003*	D
30401005	0000*	E
30401006	0000*	E
30401007	0014*	D
30401008	0014*	D
30401010	0000*	E
30401011	0000*	E
30401099	9010*	E
30402001	9010*	E
30402002	0000*	E
30402003	0000*	E
30402004	9001*	E
30402099	9010*	E
30402201	0003*	D
30402210	1036*	E
30404001	1091*	E
30404901	0000*	E
30405001	9010*	E
30405099	9010*	E
30488801	9010*	E
30488802	9010*	E
30488803	9010*	E
30488804	9010*	E
30488805	9010*	E
30490001	0002*	C

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SCC	PROFILE NUMBER	QUALITY
30490002	0001*	C
30490003	0003*	C
30490004	0004*	D
30490011	0002*	C
30490012	0001*	C
30490013	0003*	C
30490014	0004*	D
30490023	0051*	D
30490024	0079*	D
30499999	9010*	E
30500101	1007*	E
30500102	1007*	E
30500103	1007*	E
30500104	0024	C
30500105	0024*	D
30500110	1007*	E
30500111	1007*	E
30500112	0023	D
30500113	1007*	E
30500198	9011*	E
30500199	1007*	E
30500201	0025	D
30500202	0026	B
30500203	1007	C
30500204	1007*	E
30500205	0000*	E
30500206	0025*	E
30500207	0025*	E
30500208	0025*	E
30500299	1007*	E
30500301	9001*	E
30500302	0000*	E
30500303	0000*	E
30500304	0003*	C
30500307	9001*	E
30500308	0000*	E
30500309	0000*	E
30500311	0003*	C
30500312	0001*	C
30500313	1185*	E
30500314	0003*	C
30500315	0001*	C

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SCC	PROFILE NUMBER	QUALITY
30500316	1185*	E
30500398	9011*	E
30500399	9011*	E
30500401	0000*	E
30500402	0000*	E
30500403	0000*	E
30500404	0000*	E
30500405	0000*	E
30500406	0000*	E
30500499	9011*	E
30500501	9001*	E
30500502	0000*	E
30500503	0000*	E
30500504	9001*	E
30500505	9011*	E
30500598	9011*	E
30500599	9011*	E
30500606	9001*	E
30500607	0000*	E
30500608	0000*	E
30500609	0000*	E
30500610	0000*	E
30500611	0000*	E
30500612	0000*	E
30500613	0000*	E
30500614	0000*	E
30500615	0000*	E
30500616	0000*	E
30500617	0000*	E
30500618	0000*	E
30500619	0000*	E
30500699	9011*	E
30500706	0000*	E
30500707	0000*	E
30500708	0000*	E
30500709	0000*	E
30500710	0000*	E
30500711	0000*	E
30500712	0000*	E
30500714	0000*	E
30500715	0000*	E
30500716	0000*	E

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SCC	PROFILE NUMBER	QUALITY
30500717	0000*	E
30500718	0000*	E
30500719	0000*	E
30500799	9011*	E
30500801	9001*	E
30500802	0000*	E
30500803	0000*	E
30500899	9011*	E
30500901	0003*	C
30500902	0003*	C
30500903	0003*	C
30500904	0000*	E
30500905	0000*	E
30500906	0000*	E
30500907	0000*	E
30500908	0000*	E
30500909	0000*	E
30500910	0000*	E
30500999	9011*	E
30501001	9001*	E
30501002	9001*	E
30501003	9001*	E
30501004	9001*	E
30501005	9001*	E
30501006	9001*	E
30501007	9001*	E
30501008	0000*	E
30501009	0000*	E
30501010	0000*	E
30501011	0000*	E
30501012	0000*	E
30501013	0000*	E
30501014	0000*	E
30501015	0000*	E
30501016	0000*	E
30501017	0000*	E
30501021	0000*	E
30501022	0000*	E
30501023	0000*	E
30501024	0000*	E
30501030	0000*	E
30501031	0000*	E

TABLE C-1. (Continued)

SCC	PROFILE NUMBER	QUALITY
30501032	0000*	E
30501033	0000*	E
30501034	0000*	E
30501035	0000*	E
30501036	0000*	E
30501037	0000*	E
30501038	0000*	E
30501039	0000*	E
30501040	0000*	E
30501041	0000*	E
30501042	0000*	E
30501043	0000*	E
30501044	0000*	E
30501045	0000*	E
30501046	0000*	E
30501047	0000*	E
30501048	0000*	E
30501049	0000*	E
30501050	0000*	E
30501090	0000*	E
30501099	9011*	E
30501101	0000*	E
30501106	0000*	E
30501107	0000*	E
30501108	0000*	E
30501109	0000*	E
30501110	0000*	E
30501111	0000*	E
30501112	0000*	E
30501113	0000*	E
30501114	0000*	E
30501115	0000*	E
30501120	0000*	E
30501199	9011*	E
30501201	9011*	E
30501202	9011*	E
30501203	9011*	E
30501204	9011*	E
30501205	9011*	E
30501206	9011*	E
30501207	0000*	E
30501208	9011*	E

TABLE C-1. (Continued)

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SCC	PROFILE NUMBER	QUALITY
30501209	9011*	E
30501211	9011*	E
30501212	9011*	E
30501213	0000*	E
30501214	0000*	E
30501215	0000*	E
30501221	0000*	E
30501222	0000*	E
30501223	0000*	E
30501224	0000*	E
30501299	9011*	E
30501301	9011*	E
30501399	9011*	E
30501401	9011*	E
30501402	9011*	E
30501403	9011*	E
30501404	9011*	E
30501406	9011*	E
30501407	0000*	E
30501408	9011*	E
30501410	0000*	E
30501411	9011*	E
30501412	9011*	E
30501413	0000*	E
30501414	9001*	E
30501415	0000*	E
30501499	9011*	E
30501501	9001*	E
30501502	0000*	E
30501503	9001*	E
30501504	0000*	E
30501505	0000*	E
30501506	0000*	E
30501507	0000*	E
30501508	0000*	E
30501509	0000*	E
30501510	0000*	E
30501511	9001*	E
30501512	9001*	E
30501513	9001*	E
30501514	0000*	E
30501515	0000*	E

TABLE C-1. (Continued)

SCC	PROFILE NUMBER	QUALITY
30501516	0000*	E
30501517	0000*	E
30501518	0000*	E
30501519	0000*	E
30501520	9001*	E
30501521	0000*	E
30501522	0000*	E
30501599	9011*	E
30501601	0000*	E
30501602	0000*	E
30501603	9001*	E
30501604	9001*	E
30501605	9001*	E
30501606	9001*	E
30501607	0000*	E
30501608	0000*	E
30501609	0000*	E
30501610	0000*	E
30501611	0000*	E
30501612	0000*	E
30501613	0000*	E
30501614	0000*	E
30501615	0000*	E
30501616	0000*	E
30501617	9001*	E
30501699	9011*	E
30501701	0000*	E
30501702	0000*	E
30501703	9001*	E
30501704	9001*	E
30501705	9001*	E
30501799	9001*	E
30501801	0000*	E
30501899	9001*	E
30501901	9001*	E
30501902	0000*	E
30501903	0000*	E
30501904	0000*	E
30501905	0000*	E
30501999	9011*	E
30502001	0000*	E
30502002	0000*	E

TABLE C-1. (Continued)

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SCC	PROFILE NUMBER	QUALITY
30502003	0000*	E
30502004	0000*	E
30502005	0000*	E
30502006	0000*	E
30502007	0000*	E
30502008	0000*	E
30502009	0000*	E
30502010	0000*	E
30502011	0000*	E
30502012	0000*	E
30502013	0000*	E
30502014	0000*	E
30502015	0000*	E
30502016	0000*	E
30502020	0000*	E
30502099	0000*	E
30502101	0000*	E
30502102	9001*	E
30502103	0000*	E
30502104	0000*	E
30502105	0000*	E
30502106	0000*	E
30502201	0000*	E
30502299	9001*	E
30502401	0000*	E
30502499	0000*	E
30502501	0000*	E
30502502	0000*	E
30502503	0000*	E
30502504	0000*	E
30502505	0000*	E
30502506	0000*	E
30502507	0000*	E
30502508	9001*	E
30502509	0000*	E
30502510	0000*	E
30502511	0000*	E
30502599	0000*	E
30502601	0000*	E
30502699	9011*	E
30503099	9011*	E
30503101	0000*	E

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SCC	PROFILE NUMBER	QUALITY
30503102	0000*	E
30503103	0000*	E
30503104	0000*	E
30503105	0000*	E
30503106	0000*	E
30503107	0000*	E
30503108	0000*	E
30503109	0000*	E
30503110	0000*	E
30503111	0000*	E
30503199	9011*	E
30503201	0000*	E
30503202	0000*	E
30503203	0000*	E
30503204	0000*	E
30503205	0000*	E
30503206	0000*	E
30503299	9011*	E
30503301	0000*	E
30504001	0000*	E
30504002	0000*	E
30504003	0000*	E
30504010	0000*	E
30504020	0000*	E
30504021	0000*	E
30504022	0000*	E
30504023	0000*	E
30504024	0000*	E
30504025	0000*	E
30504030	0000*	E
30504031	0000*	E
30504032	0000*	E
30504033	0000*	E
30504034	0000*	E
30504036	0000*	E
30504099	9011*	E
30510001	0000*	E
30510002	0000*	E
30510003	0000*	E
30510004	0000*	E
30510005	0000*	E
30510006	0000*	E

TABLE C-1. (Continued)

SCC	PROFILE NUMBER	QUALITY
30510007	0000*	E
30510101	0000*	E
30510102	0000*	E
30510103	0000*	E
30510104	0000*	E
30510105	0000*	E
30510106	0000*	E
30510107	0000*	E
30510108	0000*	E
30510196	0000*	E
30510197	0000*	E
30510198	0000*	E
30510199	9011*	E
30510201	0000*	E
30510202	0000*	E
30510203	0000*	E
30510204	0000*	E
30510205	0000*	E
30510206	0000*	E
30510207	0000*	E
30510208	0000*	E
30510296	0000*	E
30510297	0000*	E
30510298	0000*	E
30510299	9011*	E
30510301	0000*	E
30510302	0000*	E
30510303	0000*	E
30510304	0000*	E
30510305	0000*	E
30510306	0000*	E
30510307	0000*	E
30510308	0000*	E
30510396	0000*	E
30510397	0000*	E
30510398	0000*	E
30510399	9011*	E
30510401	0000*	E
30510402	0000*	E
30510403	0000*	E
30510404	0000*	E
30510405	0000*	E

TABLE C-1. (Continued)

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SCC	PROFILE NUMBER	QUALITY
30510406	0000*	E
30510407	0000*	E
30510408	0000*	E
30510496	0000*	E
30510497	0000*	E
30510498	0000*	E
30510499	9011*	E
30510501	0000*	E
30510502	0000*	E
30510503	0000*	E
30510504	0000*	E
30510505	0000*	E
30510506	0000*	E
30510507	0000*	E
30510508	0000*	E
30510596	0000*	E
30510597	0000*	E
30510598	0000*	E
30510599	9011*	E
30515001	0000*	E
30515002	0000*	E
30515003	0000*	E
30515004	0000*	E
30515005	0000*	E
30588801	9011*	E
30588802	9011*	E
30588803	9011*	E
30588804	9011*	E
30588805	9011*	E
30590001	0002*	C
30590002	0001*	C
30590003	0003*	C
30590011	0002*	C
30590012	0001*	C
30590013	0003*	C
30590023	0051*	D
30599999	9011*	E
30600101	0001*	C
30600102	0003*	C
30600103	0001*	C
30600104	0003*	C
30600105	0003*	C

TABLE C-1. (Continued)

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SCC	PROFILE NUMBER	QUALITY
30600106	0004*	D
30600107	0003*	C
30600108	0202*	E
30600199	9012*	E
30600201	0029	C
30600202	0000*	E
30600301	0029*	D
30600401	9012*	E
30600402	9012*	E
30600503	0031	C
30600504	0031	C
30600505	9012*	E
30600506	9012*	E
30600602	9012*	E
30600603	9012*	E
30600701	0035	C
30600702	0035	C
30600801	0316	C
30600802	0047	C
30600803	0321	C
30600804	0039	D
30600805	0321*	D
30600806	0321*	D
30600807	0321*	D
30600811	0047*	E
30600812	0047*	E
30600813	0047*	E
30600814	0047*	E
30600815	0047*	E
30600816	0047*	E
30600817	0321*	E
30600818	0321*	E
30600819	0039*	E
30600820	0039*	E
30600821	0031*	E
30600822	0047*	E
30600901	0002*	D
30600902	0001*	D
30600903	0051	D
30600904	0079*	D
30600999	0079*	D
30601001	9012*	E

TABLE C-1. (Continued)

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SCC	PROFILE NUMBER	QUALITY
30601101	1007*	E
30601201	9012*	E
30601401	9012*	E
30601599	9012*	E
30609902	0001*	C
30609903	0003*	C
30609904	0004*	C
30609911	0002*	C
30609912	0001*	C
30609913	0003*	C
30609914	0004*	D
30610001	9012*	E
30688801	9012*	E
30688802	9012*	E
30688803	9012*	E
30688804	9012*	E
30688805	9012*	E
30699998	9012*	E
30699999	9012*	E
30700101	0000*	E
30700102	9001*	E
30700103	0000*	E
30700104	9001*	E
30700105	9001*	E
30700106	9001*	E
30700107	9001*	E
30700108	9001*	E
30700109	9001*	E
30700110	9001*	E
30700199	9001*	E
30700203	0000*	E
30700211	0000*	E
30700212	0000*	E
30700213	0000*	E
30700214	0000*	E
30700215	0000*	E
30700221	9001*	E
30700222	9001*	E
30700223	9001*	E
30700231	0000*	E
30700232	0000*	E
30700233	0000*	E

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SCC	PROFILE NUMBER	QUALITY
30700234	0000*	E
30700299	9013*	E
30700301	0000*	E
30700302	0000*	E
30700303	9001*	E
30700304	0000*	E
30700401	9001*	E
30700402	9001*	E
30700499	9013*	E
30700501	0000*	E
30700597	9001*	E
30700598	9001*	E
30700599	9001*	E
30700701	1189*	D
30700702	0000*	E
30700703	0000*	E
30700704	1189*	D
30700705	1189*	D
30700706	1189*	D
30700707	1189*	D
30700708	0000*	E
30700709	1189*	D
30700711	1189	C
30700712	1189	C
30700713	1189	C
30700714	1189	C
30700715	1189	C
30700798	1189*	D
30700799	1189*	D
30700801	0000*	E
30700802	0000*	E
30700803	0000*	E
30700804	0000*	E
30700805	0000*	E
30700806	0000*	E
30700807	0000*	E
30700808	0000*	E
30700896	9013*	E
30700897	9013*	E
30700898	9013*	E
30700899	9013*	E
30701199	9013*	E

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SCC	PROFILE NUMBER	QUALITY
30701301	9013*	E
30701399	9013*	E
30702098	9013*	E
30702099	9013*	E
30703001	0000*	E
30703002	0000*	E
30703096	0000*	E
30703097	0000*	E
30703098	0000*	E
30703099	0000*	E
30788801	9013*	E
30788802	9013*	E
30788803	9013*	E
30788804	9013*	E
30788805	9013*	E
30788898	9013*	E
30790001	0002*	C
30790002	0001*	C
30790003	0003*	C
30790011	0002*	C
30790012	0001*	C
30790013	0003*	C
30790023	0051*	E
30799998	9013*	E
30799999	9013*	E
30800101	0273	C
30800102	0274*	D
30800103	0274*	D
30800104	0274*	D
30800105	0272*	C
30800106	0274*	D
30800107	0274*	D
30800108	0274*	D
30800109	0000*	E
30800110	0000*	E
30800120	0273	C
30800121	0272	C
30800122	0274*	D
30800123	0274*	D
30800197	0274*	D
30800198	0274*	D
30800199	0274*	D

TABLE C-1. (Continued)

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SCC	PROFILE NUMBER	QUALITY
30800501	0274*	D
30800699	1008	D
30800701	9021*	E
30800702	0000*	E
30800703	9021*	E
30800704	9021*	E
30800705	0000*	E
30800720	1005*	E
30800721	1005*	E
30800722	1005*	E
30800723	1005*	E
30800724	1005*	E
30800799	9014*	E
30890001	0002*	C
30890002	0001*	C
30890003	0003*	C
30890011	0002*	C
30890012	0001*	C
30890013	0003*	C
30890023	0051*	D
30899999	9014*	E
30900198	9003*	E
30900199	9003*	E
30900201	0000*	E
30900202	0000*	E
30900203	0000*	E
30900204	0000*	E
30900205	0000*	E
30900206	0000*	E
30900207	0000*	E
30900208	0000*	E
30900298	0000*	E
30900299	0000*	E
30900301	0000*	E
30900302	0000*	E
30900303	0000*	E
30900304	0000*	E
30901001	9003*	E
30901097	9003*	E
30901098	9003*	E
30901099	9003*	E
30901101	0000*	E

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SCC	PROFILE NUMBER	QUALITY
30901102	0000*	E
30901103	0000*	E
30901104	9003*	E
30901199	9003*	E
30901501	0000*	E
30901601	0024*	D
30901604	0000*	E
30901605	1007*	D
30901606	1007*	D
30901607	1007*	D
30902099	9010*	E
30902501	9003*	E
30903004	9003*	E
30903005	9003*	E
30903006	9003*	E
30903099	9003*	E
30904001	9003*	E
30904010	0000*	E
30904020	9003*	E
30906001	9003*	E
30906099	9003*	E
30988801	9003*	E
30988802	9003*	E
30988803	9003*	E
30988804	9003*	E
30988805	9003*	E
30990001	0002*	C
30990002	0001*	C
30990003	0003*	C
30990011	0002*	C
30990012	0001*	C
30990013	0003*	C
30990023	0051*	D
30999997	9003*	E
30999998	9003*	E
30999999	9003*	E
31000101	1011	D
31000101	1205	C
31000101	1206	C
31000101	1207	C
31000101	1212	C
31000102	1011*	E

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SCC	PROFILE NUMBER	QUALITY
31000103	1011*	E
31000104	1011*	E
31000105	1011*	E
31000199	1011*	E
31000201	0000*	E
31000202	1012*	E
31000203	1012	D
31000204	1012*	E
31000205	0051*	E
31000206	1012*	E
31000207	1012*	E
31000299	1012*	E
31000401	0002*	C
31000402	0001*	C
31000403	0001*	C
31000404	0003*	C
31000405	0004*	D
31000411	0002*	C
31000412	0001*	C
31000413	0001*	C
31000414	0003*	C
31000415	0004*	D
31088801	1010	D
31088802	9015*	E
31088803	9015*	E
31088804	9012*	E
31088805	9015*	E
31088904	9015*	E
31100199	9003*	E
31100299	9003*	E
31299999	9003*	E
31307001	0122*	E
31307002	0122*	E
31390001	0002*	C
31390002	0001*	C
31390003	0003*	C
31399999	9003*	E
31400901	0000*	E
31401001	0122*	E
31401002	0122*	E
31401101	0000*	E
31401102	0000*	E

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SCC	PROFILE NUMBER	QUALITY
31499999	9003*	E
31501001	0000*	E
31501002	9026*	E
31501003	0000*	E
31502001	1031*	E
32099997	9016*	E
32099998	9016*	E
32099999	9016*	E
33000101	0000*	E
33000102	1096*	D
33000103	0000*	E
33000104	1096	B
33000105	0000*	E
33000198	1095	B
33000199	1095	B
33000201	9023*	E
33000202	9023*	E
33000211	9023*	E
33000212	9023*	E
33000213	9023*	E
33000214	9023*	E
33000298	9023*	E
33000299	9023*	E
33000399	9016*	E
33000499	9016*	E
33000599	9016*	E
33088801	9016*	E
33088802	9016*	E
33088803	9016*	E
33088804	9016*	E
33088805	9016*	E
36000101	0000*	E
39000199	0000*	E
39000201	0000*	E
39000203	0000*	E
39000289	1178*	E
39000299	0000*	E
39000389	1178*	E
39000399	0000*	E
39000402	0000*	E
39000403	0000*	E
39000489	0001*	C

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SCC	PROFILE NUMBER	QUALITY
39000499	0000*	E
39000501	0002*	C
39000502	0000*	E
39000503	0000*	E
39000589	0003*	C
39000598	0000*	E
39000599	0000*	E
39000602	0000*	E
39000603	0000*	E
39000605	0003*	C
39000689	0003*	C
39000699	0000*	E
39000701	0217	B
39000702	0000*	E
39000788	0004*	C
39000789	0005*	C
39000797	0000*	E
39000798	0000*	E
39000799	0000*	E
39000801	0005*	C
39000889	0005*	C
39000899	0000*	E
39000989	1084*	E
39000999	0000*	E
39001089	0003*	C
39001099	0000*	E
39001299	0000*	E
39001389	0122*	E
39001399	0000*	E
39990001	0002	B
39990002	0001	B
39990003	0003	B
39990004	0004*	D
39990011	0002	B
39990012	0001	B
39990013	0003	B
39990014	0004*	D
39990022	0079*	E
39990023	0051*	E
39990024	0079*	E
39999993	9003*	E
39999994	9003*	E

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SCC	PROFILE NUMBER	QUALITY
39999995	9003*	E
39999996	9003*	E
39999998	9003*	E
39999999	9003*	E
40100101	0085	E
40100102	1193	B
40100103	0085	E
40100104	1193*	C
40100105	0277	E
40100106	0277	E
40100198	1196	B
40100199	1196*	B
40100201	1192	B
40100202	0087	E
40100203	0085*	E
40100204	0275	E
40100205	0271*	E
40100206	0090	E
40100207	0277	E
40100208	1021	E
40100215	1195	B
40100216	1195	B
40100217	1195	B
40100221	1192	B
40100222	0087*	E
40100223	0085*	E
40100224	0275	E
40100225	0271*	E
40100235	1195	B
40100236	1195	B
40100251	1192	B
40100252	0087*	E
40100253	0085*	E
40100254	0275	E
40100255	0271	E
40100256	0090	E
40100257	0277	E
40100258	0088	E
40100259	0089	E
40100295	1195	B
40100296	1195	B
40100297	1195	B

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SCC	PROFILE NUMBER	QUALITY
40100298	1195	B
40100299	1195	B
40100301	1149	E
40100302	0275	E
40100303	1192	B
40100304	0085*	E
40100305	0087*	E
40100306	0271*	E
40100335	1195	B
40100336	1195	B
40100398	1195	B
40100399	1195	B
40100401	0085*	E
40100499	9017*	E
40188801	9017*	E
40188802	9017*	E
40188803	9017*	E
40188804	9017*	E
40188805	9017*	E
40188898	9017*	E
40200101	1003	B
40200110	1003	B
40200201	1013	B
40200210	1013	B
40200301	0127	D
40200310	0127	D
40200401	1017	B
40200410	1017	B
40200501	1018	B
40200510	1018	B
40200601	1019	B
40200610	1019	B
40200701	1088	C
40200706	1020	B
40200707	0000*	E
40200710	1088	C
40200801	1003*	C
40200802	1003*	C
40200803	1003*	C
40200810	1003*	C
40200898	1003*	B
40200899	1003*	C

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SCC	PROFILE NUMBER	QUALITY
40200901	1016	B
40200902	0219	E
40200903	0288	E
40200904	0289	E
40200905	1118	E
40200906	0290	E
40200907	0222	E
40200908	0292	E
40200909	0220	E
40200910	0226	E
40200911	1015*	D
40200912	0227	E
40200913	0228	E
40200914	1014*	E
40200915	0229	E
40200916	1150	E
40200917	0291	E
40200918	0221	E
40200919	1022*	E
40200920	0225	E
40200921	0282	E
40200922	0090*	E
40200923	0225*	E
40200924	0223	E
40200925	1062*	C
40200926	9023*	E
40200927	1026	E
40200928	1031	E
40200998	9021*	E
40201001	0003*	D
40201002	0002*	D
40201003	0001*	D
40201004	0000*	E
40201101	1003*	D
40201103	1003*	D
40201104	0000*	E
40201105	1003*	D
40201111	1003*	D
40201112	1003*	D
40201113	1003*	D
40201114	1003*	D
40201115	1003*	D

TABLE C-1. (Continued)

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SCC	PROFILE NUMBER	QUALITY
40201116	1003*	D
40201199	1003*	D
40201201	1003*	D
40201210	1003*	D
40201301	1003*	D
40201303	1003*	D
40201304	0000*	E
40201305	1003*	D
40201399	1003*	D
40201401	1003*	D
40201402	0000*	E
40201403	1003*	D
40201404	0000*	E
40201405	1003*	D
40201406	1003*	D
40201431	1003*	D
40201432	1003*	D
40201433	1003*	D
40201434	1003*	D
40201435	1003*	D
40201436	1003*	D
40201437	1003*	D
40201438	1003*	D
40201499	1003*	D
40201501	1003*	D
40201502	0000*	E
40201503	1003*	D
40201504	0000*	E
40201505	1003*	D
40201531	1003*	D
40201599	1003*	D
40201601	1194*	C
40201602	0000*	E
40201603	1194*	C
40201604	0000*	E
40201605	1194*	C
40201606	1194*	C
40201619	1194*	C
40201620	1003*	B
40201621	1194*	C
40201622	1194*	D
40201623	1194*	C

TABLE C-1. (Continued)

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SCC	PROFILE NUMBER	QUALITY
40201624	1194*	D
40201625	1194*	C
40201626	1194*	C
40201627	1194*	C
40201628	1194*	D
40201629	1194*	C
40201630	1194*	D
40201631	1194*	C
40201632	1194*	D
40201699	1194*	D
40201702	0000*	E
40201703	1003*	D
40201704	0000*	E
40201705	1003*	D
40201721	1003*	D
40201722	1003*	D
40201723	1003*	D
40201724	1003*	D
40201725	1003*	D
40201726	1003*	D
40201727	1003*	D
40201728	1003*	D
40201731	1003*	D
40201732	1003*	D
40201733	1003*	D
40201734	1003*	D
40201735	1003*	D
40201736	1003*	D
40201799	1003*	D
40201801	1003*	D
40201803	1003*	D
40201804	0000*	E
40201805	1003*	D
40201806	1003*	D
40201899	1003*	D
40201901	1003*	D
40201903	1003*	D
40201904	0000*	E
40201999	1003*	D
40202001	1003*	D
40202002	0000*	E
40202003	1003*	D

TABLE C-1. (Continued)

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SCC	PROFILE NUMBER	QUALITY
40202004	0000*	E
40202005	1003*	D
40202031	1003*	D
40202032	1003*	D
40202033	1003*	D
40202034	1003*	D
40202099	1003*	D
40202101	1003*	D
40202103	1003*	D
40202104	0000*	E
40202105	1003*	D
40202106	1003*	D
40202107	1003*	D
40202108	1003*	D
40202109	1003*	D
40202131	1003*	D
40202132	1003*	D
40202133	1003*	D
40202199	1003*	D
40202201	1003*	D
40202202	0000*	E
40202203	1003*	D
40202204	0000*	E
40202205	1003*	D
40202299	1003*	D
40202301	1003*	D
40202302	0000*	E
40202303	1003*	D
40202304	0000*	E
40202305	1003*	D
40202306	1003*	D
40202399	1003*	D
40202401	1003*	D
40202402	0000*	E
40202403	1003*	D
40202404	0000*	E
40202405	1003*	D
40202406	1003*	D
40202499	1003*	D
40202501	1003*	D
40202502	0000*	E
40202503	1003*	D

TABLE C-1. (Continued)

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SCC	PROFILE NUMBER	QUALITY
40202504	0000*	E
40202505	1003*	D
40202531	1003*	D
40202532	1003*	D
40202533	1003*	D
40202534	1003*	D
40202535	1003*	D
40202536	1003*	D
40202537	1003*	D
40202599	1003*	D
40202601	1003*	D
40202602	0000*	E
40202603	1003*	D
40202604	0000*	E
40202605	1003*	D
40202606	1003*	D
40202607	1003*	D
40202699	1003*	D
40288801	1003*	D
40288802	1003*	D
40288803	1003*	D
40288804	1003*	D
40288805	1003*	D
40290023	0051*	D
40299995	1187	D
40299996	1187	D
40299997	1187	D
40299998	1187	D
40299999	9021*	E
40300101	1014*	D
40300102	0297*	E
40300103	1015*	D
40300104	0297*	E
40300105	0100*	D
40300106	0100*	D
40300107	0297*	E
40300108	1062*	E
40300109	0299*	E
40300110	1200*	E
40300111	0301*	E
40300112	0230*	E
40300113	1197	E

TABLE C-1. (Continued)

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SCC	PROFILE NUMBER	QUALITY
40300114	1199	E
40300115	1198	E
40300116	0090*	E
40300150	0100*	D
40300151	0297*	E
40300152	0100*	D
40300153	1062*	E
40300154	0299*	E
40300155	1200*	E
40300156	0301*	E
40300157	0230*	E
40300158	1197*	E
40300159	1199*	E
40300160	1198*	E
40300161	0090*	E
40300198	9024*	E
40300199	9024*	E
40300201	1014*	D
40300202	1014*	D
40300203	0297*	E
40300204	0297*	E
40300205	0100*	D
40300207	0100*	D
40300208	1062*	E
40300209	0299*	E
40300210	1200	E
40300211	0301*	E
40300212	0230*	E
40300213	1197*	E
40300214	1199*	E
40300215	1198*	E
40300216	0090*	E
40300299	9024*	E
40300302	1014*	D
40301001	1015	B
40301002	1014*	D
40301003	1014	B
40301004	1015	B
40301005	1014*	D
40301006	1014	B
40301007	1015	B
40301008	1014*	D

TABLE C-1. (Continued)

SCC	PROFILE NUMBER	QUALITY
40301009	1014	B
40301010	0296	C
40301011	0296	C
40301012	0296	C
40301013	0100	C
40301014	0100*	D
40301015	0100*	D
40301016	0100*	D
40301017	0100*	D
40301018	0100*	D
40301019	0297*	E
40301020	0297*	E
40301021	0297*	E
40301097	9024*	E
40301098	9024*	E
40301099	9024*	E
40301101	1015	B
40301102	1014*	D
40301103	1014	B
40301104	1015	C
40301105	1014*	D
40301106	1014*	C
40301107	1014*	D
40301108	1014*	D
40301109	0296	C
40301110	0296*	D
40301111	0100*	D
40301112	0100*	D
40301113	0100*	D
40301114	0100*	D
40301115	0297*	E
40301116	0297*	E
40301117	0296*	D
40301118	0100*	D
40301119	0100*	D
40301120	0297*	E
40301130	9024*	E
40301131	1014*	C
40301132	0296*	D
40301133	0100*	D
40301134	0100*	D
40301135	0297*	E

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SCC	PROFILE NUMBER	QUALITY
40301140	9024*	E
40301141	1014*	C
40301142	0296*	D
40301143	0100*	D
40301144	0100*	D
40301145	0297*	E
40301150	9024*	E
40301151	1014*	C
40301152	0296*	D
40301153	0100*	D
40301154	0100*	D
40301155	0297*	E
40301197	9024*	E
40301198	9024*	E
40301199	9024*	E
40301201	1015	B
40301202	1014*	D
40301203	1014	B
40301204	0100*	D
40301205	0100*	D
40301206	0297*	E
40301207	1062*	D
40301299	9024*	E
40388801	9024*	E
40388802	9024*	E
40388803	9024*	E
40388804	9024*	E
40388805	9024*	E
40399999	9024*	E
40400101	1015	B
40400102	1014*	D
40400103	1014	B
40400104	1015	B
40400105	1014*	D
40400106	1014	B
40400107	1015	B
40400108	1014*	D
40400109	1014	B
40400110	1015	B
40400111	1014*	D
40400112	1014	B
40400113	1015	B

TABLE C-1. (Continued)

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SCC	PROFILE NUMBER	QUALITY
40400114	1014*	D
40400115	1014	B
40400116	1014*	D
40400117	1014*	D
40400118	1015	B
40400119	1014*	D
40400120	1014	B
40400151	9025*	E
40400152	9025*	E
40400153	9025*	E
40400154	9025*	E
40400199	1015*	C
40400201	1015	B
40400202	1014*	C
40400203	1014	B
40400204	1015	B
40400205	1014*	C
40400206	1014	B
40400207	1015	B
40400208	1014*	C
40400209	1014	B
40400210	1014*	C
40400211	1015	B
40400212	1014*	C
40400213	1014	B
40400250	9025*	E
40400251	9025*	E
40400254	9025*	E
40400301	0297	C
40400302	0297	C
40400302	1208	C
40400302	1209	C
40400303	0297*	D
40400303	1210	C
40400303	1211	C
40400304	0297*	D
40400304	1210	C
40400304	1211	C
40400305	0297*	D
40400305	1209	C
40400305	1210	C
40400305	1211	C

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SCC	PROFILE NUMBER	QUALITY
40400401	0000*	E
40400402	1015	B
40400403	0000*	E
40400404	1014*	C
40400405	0000*	E
40400406	1014	B
40400407	0000*	E
40400408	0297*	D
40400409	0000*	E
40400410	0100*	D
40400411	0000*	E
40400412	0100*	D
40400413	0000*	E
40400414	0297*	E
40400497	9025*	E
40400498	9025*	E
40500101	0333*	D
40500199	0333*	D
40500201	0166	D
40500202	1014*	E
40500203	0225*	E
40500211	0166	D
40500212	0166*	E
40500301	1086	C
40500302	1118	E
40500303	0290*	E
40500304	0226*	E
40500305	0227*	E
40500306	0304*	E
40500307	0282*	E
40500311	1086	C
40500312	1086	C
40500401	0332	D
40500411	0332	D
40500412	0332*	E
40500413	0227*	E
40500501	0182	C
40500502	0292*	E
40500503	0220*	E
40500506	0221*	E
40500507	1022	E
40500510	0090*	E

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SCC	PROFILE NUMBER	QUALITY
40500511	0182	C
40500512	0182	C
40500513	0183	D
40500598	9026*	E
40500599	9026*	E
40500601	9026	E
40500701	9026	E
40588801	1191	B
40588802	1191*	B
40588803	1191*	B
40588804	1191*	B
40588805	1191*	B
40600101	1190*	C
40600126	1190*	C
40600130	0297*	E
40600131	1190*	B
40600132	0297*	D
40600133	0100*	D
40600134	0100*	D
40600135	0297*	E
40600136	1190*	B
40600137	0297*	D
40600138	0100*	D
40600139	0100*	D
40600140	0297*	D
40600141	1190*	B
40600142	0297*	D
40600143	0100*	D
40600144	1190*	B
40600145	0297*	D
40600146	0100*	D
40600147	1190*	B
40600148	0297*	D
40600149	0100*	D
40600160	0100*	D
40600161	0297*	E
40600162	1190*	B
40600163	1190*	B
40600197	1190*	D
40600198	1190*	D
40600199	1190*	D
40600231	1190*	B

SCC	PROFILE NUMBER	QUALITY
40600232	1190*	B
40600233	1190*	B
40600234	1190*	C
40600235	1190*	B
40600236	1190*	B
40600237	1190*	B
40600238	1190*	B
40600239	1190*	B
40600240	1190*	B
40600241	1190*	B
40600242	1190*	B
40600243	0297*	D
40600244	0100*	D
40600245	1014*	E
40600246	0100*	E
40600248	0297*	D
40600249	0100*	D
40600250	1014*	E
40600251	0297*	E
40600253	0305	C
40600254	0305*	D
40600255	0100*	D
40600256	1014*	E
40600257	0297*	E
40600259	9027*	E
40600298	1190*	D
40600299	1190*	D
40600301	1190*	B
40600302	1190*	B
40600305	1190*	B
40600306	1190*	B
40600307	1014*	C
40600399	1190*	C
40600401	1100	C
40600402	1100*	C
40600403	1100	C
40600499	1190*	C
40602234	1100*	C
40688801	9027*	E
40688802	9027*	E
40688803	9027*	E
40688804	9027*	E

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SCC	PROFILE NUMBER	QUALITY
40688805	9027*	E
40700401	1106	E
40700402	1106	E
40700497	1106*	E
40700498	1106*	E
40700801	0289*	E
40700802	0289*	E
40700803	1027*	C
40700804	1027*	C
40700805	1175	E
40700806	1175	E
40700807	1124	E
40700808	1124	E
40700809	0226*	E
40700810	0226*	E
40700811	1147	E
40700812	1147	E
40700813	0227*	E
40700814	0227*	E
40700815	0291*	E
40700816	0291*	E
40700817	0304	E
40700818	0304	E
40700897	9029*	E
40700898	9029*	E
40701601	1163	E
40701602	1163	E
40701603	1164	E
40701604	1164	E
40701605	0301	E
40701606	0301	E
40701609	1166	E
40701610	1166	E
40701611	0282*	E
40701612	0282*	E
40701613	0282*	E
40701614	0282*	E
40701697	9030*	E
40701698	9030*	E
40702001	1130	E
40702002	1130	E
40702003	1144	E

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SCC	PROFILE NUMBER	QUALITY
40702004	1144	E
40702097	9031*	E
40702098	9031*	E
40703201	1111	E
40703202	1111	E
40703203	1132	E
40703204	1132	E
40703205	1139	E
40703206	1139	E
40703297	9032*	E
40703298	9032*	E
40703601	1062*	E
40703602	1062*	E
40703603	1122	E
40703604	1122	E
40703605	1123	E
40703606	1123	E
40703607	1128	E
40703608	1128	E
40703609	1135	E
40703610	1135	E
40703611	1154	E
40703612	1154	E
40703613	1005*	E
40703614	1005*	E
40703615	0090*	E
40703616	0090*	E
40703617	1159	E
40703618	1159	E
40703619	1165	E
40703620	1165	E
40703621	1174	E
40703622	1174	E
40703623	0223*	E
40703624	0223*	E
40703697	9033*	E
40703698	9033*	E
40704001	1105	E
40704002	1105	E
40704003	1108	E
40704004	1108	E
40704005	1110	E

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SCC	PROFILE NUMBER	QUALITY
40704006	0000*	E
40704007	1141	E
40704008	1141	E
40704009	1172	E
40704010	1172	E
40704097	9034*	E
40704098	9034*	E
40704401	0288*	E
40704402	0288*	E
40704403	1114	E
40704404	1114	E
40704405	0220*	E
40704406	0220*	E
40704407	1134	E
40704408	1134	E
40704409	1146	E
40704410	1146	E
40704411	0228*	E
40704412	0228*	E
40704413	1150	E
40704414	1150	E
40704415	1151	E
40704416	1151	E
40704417	1081*	D
40704418	1081*	D
40704419	1053*	E
40704420	1053*	E
40704421	1069	E
40704422	1069	E
40704423	1087	E
40704424	1087	E
40704497	9035*	E
40704498	9035*	E
40704801	1158	E
40704802	1158	E
40704897	1158*	E
40704898	1158*	E
40705201	1115	E
40705202	1115	E
40705203	1116	E
40705204	1116	E
40705205	1118	E

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SCC	PROFILE NUMBER	QUALITY
40705206	1118	E
40705207	0290*	E
40705208	0290*	E
40705209	1127	E
40705210	1127	E
40705211	1152	E
40705212	1152	E
40705213	1153	E
40705214	1153	E
40705215	0000*	E
40705216	0000*	E
40705217	0000*	E
40705218	0000*	E
40705297	9036*	E
40705298	9036*	E
40705601	0000*	E
40705602	0000*	E
40705603	1078*	C
40705604	1078*	C
40705605	1129	E
40705606	1129	E
40705607	0000*	E
40705608	0000*	E
40705609	1083*	C
40705610	0000*	E
40705697	9037*	E
40705698	9037*	E
40706001	1112	E
40706002	1112	E
40706003	0000*	E
40706004	0000*	E
40706005	1119	E
40706006	1119	E
40706007	1074*	C
40706008	1074*	C
40706009	1079*	C
40706010	1079*	C
40706011	1076*	C
40706012	1076*	C
40706013	1131	E
40706014	1131	E
40706015	1138	E

TABLE C-1. (Continued)

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SCC	PROFILE NUMBER	QUALITY
40706016	1138	E
40706017	0078*	B
40706018	0078*	B
40706019	0000*	E
40706020	0000*	E
40706021	0085*	E
40706022	0085*	E
40706023	0271*	E
40706024	0271*	E
40706097	9038*	E
40706098	9038*	E
40706401	0000*	E
40706402	0000*	E
40706403	1176	E
40706404	1176	E
40706497	9039*	E
40706498	9039*	E
40706801	1125	E
40706802	1125	E
40706813	1055	E
40706814	1055	E
40706897	9040*	E
40706898	9040*	E
40707601	1109	E
40707602	1109	E
40707697	1109*	E
40707698	1109*	E
40708001	1160	E
40708002	1160	E
40708097	1160*	E
40708098	1160*	E
40708401	0000*	E
40708402	0000*	E
40708403	1082*	C
40708404	1082*	C
40708497	9028*	E
40708498	9028*	E
40717205	1162	E
40717206	1162	E
40717207	1140	E
40717208	1140	E
40717209	1145	E

TABLE C-1. (Continued)

SCC	PROFILE NUMBER	QUALITY
40717210	1145	E
40717211	1171	E
40717212	1171	E
40717297	9041*	E
40717298	9041*	E
40717601	0299	E
40717602	0299	E
40717603	0230	E
40717604	0230	E
40717697	9042*	E
40717698	9042*	E
40718097	9046*	E
40720801	1136	E
40720802	1136	E
40720803	1173	E
40720804	1173	E
40720897	9043*	E
40720898	9043*	E
40722001	1119	E
40722002	1119	E
40722003	1121	E
40722004	1121	E
40722005	0078*	B
40722006	0078*	B
40722007	0000*	E
40722008	0000*	E
40722009	0087*	E
40722010	0087*	E
40722097	9044*	E
40722098	9044*	E
40722801	0219*	E
40722802	0219*	E
40722803	0221*	E
40722804	0221*	E
40722805	1022*	E
40722806	1022*	E
40722897	9028*	E
40722898	9028*	E
40723201	1137	E
40723202	1137	E
40723297	1137*	E
40723298	1137*	E

TABLE C-1. (Continued)

SCC	PROFILE NUMBER	QUALITY
40781201	1104	E
40781202	1107	E
40781601	0000*	E
40781602	0000*	E
40781603	0000*	E
40781604	0000*	E
40781605	0000*	E
40781699	0000*	E
40782001	0000*	E
40782002	0000*	E
40782003	0000*	E
40782004	0000*	E
40782005	0000*	E
40782006	0000*	E
40782007	1148	E
40782008	1155	E
40782009	1103	E
40782010	1168	E
40782011	1126	E
40782099	9046*	E
40782401	0000*	E
40782499	0000*	E
40783201	0000*	E
40783202	0000*	E
40783203	0000*	E
40783299	0000*	E
40784801	0000*	E
40784899	0000*	E
40786001	0000*	E
40786002	0000*	E
40786003	0000*	E
40786004	0000*	E
40786099	0000*	E
40786401	0000*	E
40786499	0000*	E
40787201	0000*	E
40787299	0000*	E
40799997	9028*	E
40799998	9028*	E
40899995	9028*	E
40899997	9028*	E
40899999	9028*	E

TABLE C-1. (Continued)

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SCC	PROFILE NUMBER	QUALITY
49000101	1193*	C
49000102	0221*	E
49000103	1022*	E
49000104	1142	E
49000105	0271*	E
49000199	9047*	E
49000201	9047*	E
49000202	9047*	E
49000203	9047*	E
49000204	9047*	E
49000205	9047*	E
49000206	9047*	E
49000299	9047*	E
49000301	1078	D
49000302	1074	D
49000303	1079	D
49000304	1080	D
49000399	9047*	E
49000401	0219*	E
49000402	0085*	E
49000403	1081	D
49000404	1082	D
49000405	1083	D
49000499	9047*	E
49090011	0002*	C
49090012	0001*	C
49090013	0003*	C
49090023	0051*	E
49099998	9047*	E
49099999	9047*	E
50100101	0122	D
50100102	0122	D
50100201	0121*	E
50100202	0121	C
50100505	0122*	D
50100506	0122*	D
50100507	0122*	E
50100508	0121*	E
50100510	0121*	E
50100511	0122*	E
50100512	0122*	E
50100601	9022*	E

TABLE C-1. (Continued)

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SCC	PROFILE NUMBER	QUALITY
50100602	9022*	E
50100603	9022*	E
50100604	0121*	E
50100701	9022*	E
50100702	9022*	E
50100703	9022*	E
50100704	0000*	E
50190005	0000*	E
50190006	0000*	E
50190010	0000*	E
50200101	0122*	E
50200102	0122*	E
50200103	0000*	E
50200104	0122*	E
50200105	0121*	E
50200201	0121*	E
50200202	0122*	E
50200301	0122*	E
50200302	0122*	E
50200505	0122*	E
50200506	0122*	E
50200601	0079*	D
50200602	0202	C
50200901	0000*	E
50290005	0000*	E
50290006	0000*	E
50290010	0000*	E
50300101	0122*	E
50300102	0122*	E
50300103	0000*	E
50300104	0122*	E
50300105	0121*	D
50300106	0000*	E
50300107	0122*	E
50300108	9022*	E
50300109	0122*	E
50300201	0121*	D
50300202	0122*	E
50300203	9022*	E
50300204	9022*	E
50300501	9022*	E
50300506	0122*	E

TABLE C-1. (Continued)

SCC	PROFILE NUMBER	QUALITY
50300601	0079*	D
50300602	9022*	E
50300603	9022*	E
50300701	9022*	E
50300801	9022*	E
50300810	9022*	E
50300820	9022*	E
50300901	0000*	E
50390005	0000*	E
50390006	0000*	E
50390010	0000*	E

TABLE C-2. AREA SOURCE PROFILE ASSIGNMENTS

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AREA SOURCE CODE	PROFILE NUMBER	DATA QUALITY
001	1185*	E
002	1185*	E
003	0002*	C
004	0001*	C
005	0195*	C
006	1084*	D
007	1178*	E
008	1178*	E
009	0002*	C
010	0001*	C
011	0003*	C
012	1084*	D
013	1185*	E
014	1185*	D
015	0005*	C
016	0002*	C
017	0001*	C
018	0003*	C
019	1084*	D
020	0004*	D
021	0122*	E
022	0122*	E
023	0122*	D
024	0121*	D
025	0121*	C
026	0121*	D
027	1101*	B
028	1101*	B
029	1101*	B
030	1101*	B
031	1101*	C
032	1101*	C
033	1101*	C
034	1101*	C
035	1186*	C
036	1186*	C
037	1186*	C
038	1186*	C
039	1186*	C
040	1201*	D
041	1201*	D
042	1201*	D
043	1201*	D

TABLE C-2. (Continued).

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AREA SOURCE CODE	PROFILE NUMBER	DATA QUALITY
044	1201*	D
045	1201*	D
046	1097*	B
047	1099*	C
048	1098*	B
049	1178*	E
050	1201*	D
051	0001*	C
052	1186*	D
054	1190*	B
055	0000*	E
056	1099*	D
057	0000*	E
058	0000*	E
059	0000*	E
060	0307*	C
061	0307*	C
062	0307*	D
063	0001*	D
064	0307*	C
071	0203*	C
072	0203*	C
073	0203*	C
074	0203*	C
075	0203*	C
076	0203*	D
077	0203*	C
078	1195*	B
079	1196*	B
080	1191*	B
081	9014*	E
082	1016*	B
083	1194*	B
084	1003*	D
085	1003*	D
086	1003*	D
087	1003*	D
088	1003*	D
089	1003*	D
090	1003*	D
091	1003*	D
092	1003*	D
093	9003*	E

TABLE C-2. (Continued).

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AREA SOURCE CODE	PROFILE NUMBER	DATA QUALITY
094	9028*	E
095	0197*	D
096	1178*	E
097	0001*	B
098	0003*	B
099	0000*	E
100	9022*	E
101	9004*	E
102	9025*	E
103	9012*	E
104	9003*	E
105	9004*	E
106	9006*	E
107	9015*	E
108	1007	E
109	9022*	E
110	1101*	D
111	1201	C
112	0000*	E
113	0000*	E
114	0000*	E
115	0000*	E

TABLE C-3. AREA SOURCE CODE DESCRIPTIONS

Area Source Code	Category Description
001	Residential Fuel - Anthracite Coal
002	Residential Fuel - Bituminous Coal
003	Residential Fuel - Distillate Oil
004	Residential Fuel - Residual Oil
005	Residential Fuel - Natural Gas
006	Residential Fuel - Wood
007	Commercial/Institutional Fuel - Anthracite Coal
008	Commercial/Institutional Fuel - Bituminous Coal
009	Commercial/Institutional Fuel - Distillate Oil
010	Commercial/Institutional Fuel - Residual Oil
011	Commercial/Institutional Fuel - Natural Gas
012	Commercial/Institutional Fuel - Wood
013	Industrial Fuel - Anthracite Coal
014	Industrial Fuel - Bituminous Coal
015	Industrial Fuel - Coke
016	Industrial Fuel - Distillate Oil
017	Industrial Fuel - Residual Oil
018	Industrial Fuel - Natural Gas
019	Industrial Fuel - Wood
020	Industrial Fuel - Process Gas
021	On-Site Incineration - Residential
022	On-Site Incineration - Industrial
023	On-Site Incineration - Commercial/Institutional
024	Open Burning - Residential
025	Open Burning - Industrial
026	Open Burning - Commercial/Institutional
027	Light-Duty Gasoline Vehicles - Limited Access Roads
028	Light-Duty Gasoline Vehicles - Rural Roads
029	Light-Duty Gasoline Vehicles - Suburban Roads

TABLE C-3. AREA SOURCE CODE DESCRIPTIONS

Area Source Code	Category Description
030	Light-Duty Gasoline Vehicles - Urban Roads
031	Medium-Duty Gasoline Vehicles - Limited Access Roads
032	Medium-Duty Gasoline Vehicles - Rural Roads
033	Medium-Duty Gasoline Vehicles - Suburban Roads
034	Medium-Duty Gasoline Vehicles - Urban Roads
035	Heavy-Duty Gasoline Vehicles - Limited Access Roads
036	Heavy-Duty Gasoline Vehicles - Rural Roads
037	Heavy-Duty Gasoline Vehicles - Suburban Roads
038	Heavy-Duty Gasoline Vehicles - Urban Roads
039	Off-Highway Gasoline Vehicles
040	Heavy-Duty Diesel Vehicles - Limited Access Roads
041	Heavy-Duty Diesel Vehicles - Rural Roads
042	Heavy-Duty Diesel Vehicles - Suburban Roads
043	Heavy-Duty Diesel Vehicles - Urban Roads
044	Off-Highway Diesel Vehicles
045	Railroad Locomotives
046	Aircraft Landing and Takeoff (LTO) - Military
047	Aircraft Landing and Takeoff (LTO) - Civil
048	Aircraft Landing and Takeoff (LTO) - Commercial
049	Vessels - Coal
050	Vessels - Diesel Oil
051	Vessels - Residual Oil
052	Vessels - Gasoline
054	Gasoline Marketed
055	Unpaved Road Travel
056	Unpaved Airstrip LTOs
057	Construction
058	Miscellaneous Wind Erosion
059	Land Tilling

TABLE C-3. AREA SOURCE CODE DESCRIPTIONS

Area Source Code	Category Description
060	Forest Wild Fires
061	Managed Burning - Prescribed
062	Agricultural Field Burning
063	Frost Control - Orchard Heaters
064	Structural Fires
071	Beef Cattle Manure Field Application
072	Dairy Cattle Manure Field Application
073	Hog and Pig Manure Field Application
074	Broiler Chicken Manure Field Application
075	Other Chicken Manure Field Application
076	Anhydrous Ammonia Fertilizer Application
077	Beef Cattle Feed Lots
078	Degreasing
079	Drycleaning
080	Graphic Arts (Printing)
081	Rubber and Plastics Manufacturing
082	Architectural Coating
083	Auto Body Repair
084	Motor Vehicle Manufacturing
085	Paper Coating
086	Fabricated Metals
087	Machinery Manufacturing
088	Furniture Manufacturing
089	Flat Wood Products
090	Other Transportation Equipment Manufacturing
091	Electrical Equipment Manufacturing
092	Ship Building and Repairing
093	Miscellaneous Industrial Manufacturing
094	Miscellaneous Industrial Solvent Use

TABLE C-3. AREA SOURCE CODE DESCRIPTIONS

Area Source Code	Category Description
095	Miscellaneous Nonindustrial Solvent Use
096	Minor Utility Sources - Coal
097	Minor Utility Sources - Oil
098	Minor Utility Sources - Gas
099	Minor Point Sources
100	Publicly Owned Treatment Works (POTWs)
101	Fugitive Emissions from Synthetic Organic Chemical Manufacture
102	Bulk Terminals and Bulk Plants
103	Fugitive Emissions from Petroleum Refining Operations
104	Process Emissions from Bakeries
105	Process Emissions from Pharmaceutical Manufacture
106	Process Emissions from Synthetic Fibers Manufacture
107	Crude Oil and Natural Gas Production Fields
108	Cutback Asphalt Paving Operations
109	Hazardous Waste Treatment, Storage, and Disposal Factilities
110	Transportation Composite
111	Light-Duty Diesel Vehicles
112	Tire Wear
113	Paved Roads
114	Marine Aerosol
115	Volcanic Ash

APPENDIX D

CHEMICAL SPECIES DATA FILE

APPENDIX D

CHEMICAL SPECIES DATA FILE

In this appendix, Table D-1 presents an alphabetical listing of all species used in the profiles including their molecular weight, SAROAD code, and CAS number. Table D-2 presents the same information ordered according to SAROAD codes.

If the CAS number for a species were not readily available, this is indicated by a "0" in the appropriate column. This does not mean that the CAS number for a particular species is zero. For several uncommon species, it was difficult to find or calculate molecular weights. An estimate is provided for these species. In cases where a species represents a group or class of compounds, an average molecular weight value is provided.

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TABLE D-1. SPECIES DATA FILE (ALPHABETICAL LISTING)

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MOLECULAR WEIGHT	SAROAD NUMBER	SPECIES NAME	CAS NUMBER
133.42	43814	1,1,1-TRICHLOROETHANE	71556
133.42	43820	1,1,2-TRICHLOROETHANE	79005
134.22	45217	1,2 DIETHYLBENZENE	135013
134.22	45237	1,2,3,4 TETRAMETHYLBENZENE	488233
120.19	45225	1,2,3-TRIMETHYLBENZENE	526738
120.19	45208	1,2,4-TRIMETHYLBENZENE	95636
120.19	45207	1,3,5-TRIMETHYLBENZENE	108678
54.09	43218	1,3-BUTADIENE	106990
90.12	43322	1,4 BUTANEDIOL	110634
54.09	43281	1-BUTYNE	107006
92.57	43835	1-CHLOROBUTANE	78864
140.27	90014	1-DECENE	8720509
104.15	43313	1-ETHOXY-2-PROPANOL	
98.18	90057	1-HEPTENE	592767
84.16	43245	1-HEXENE	592416
120.19	99913	1-METHYL-2-ETHYLBENZENE	
120.19	99912	1-METHYL-3-ETHYLBENZENE	
134.22	99917	1-METHYL-3-ISOPROPYLBENZENE	
134.22	99916	1-METHYL-3N-PROPYLBENZENE	
96.17	43299	1-METHYLCYCLOHEXENE	
126.24	43269	1-NONENE	124118
70.13	43224	1-PENTENE	109671
154.30	90032	1-UNDECENE	821954
207.02	45703	2,2 DICHLORONITROANILINE	
114.22	43287	2,2 DIMETHYLHEXANE	590738
72.17	43222	2,2 DIMETHYLPROPANE	463821
114.20	43912	2,2,4-TRIME-PENTANE	540841
114.22	43250	2,2,4-TRIMETHYLPENTANE	540841
128.26	98033	2,2,5-TRIMETHYLHEXANE	
86.17	43291	2,2-DIMETHYLBUTANE	75832
100.20	43274	2,3 DIMETHYL PENTANE	565593
84.16	43234	2,3 DIMETHYL-1-BUTENE	563780
86.17	43276	2,3 DIMETHYLBUTANE	79298
128.26	90006	2,3 DIMETHYLHEPTANE	
114.22	43290	2,3 DIMETHYLHEXANE	
142.28	99908	2,3 DIMETHYLOCTANE	
114.22	43280	2,3,3 TRIMETHYLPENTANE	
114.22	43252	2,3,4-TRIMETHYLPENTANE	565753
128.25	90002	2,3,5-TRIMETHYLHEXANE	
128.26	90003	2,4 DIMETHYLHEPTANE	
142.29	99910	2,4 DIMETHYLOCTANE	
112.22	98054	2,4,4-TRIMETHYL-1-PENTENE	107391

TABLE D-1. (Continued)

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MOLECULAR WEIGHT	SAROAD NUMBER	SPECIES NAME	CAS NUMBER
142.29	90009	2,4,5-TRIMETHYLHEPTANE	
114.22	43277	2,4-DIMETHYLHEXANE	
100.20	43247	2,4-DIMETHYLPENTANE	108087
128.26	90005	2,5 DIMETHYLHEPTANE	
114.22	43278	2,5-DIMETHYLHEXANE	592132
167.31	99909	2,6 DIMETHYLOCTANE	
162.26	43312	2-(2-BUTOXYETHOXY)-ETHANOL	112345
128.19	43391	2-BUTYLTETRAHYDROFURAN	
54.09	43282	2-BUTYNE	503173
130.23	43318	2-ETHYL HEXANOL	104767
84.16	43279	2-ETHYL-1-BUTENE	760214
96.09	45503	2-FURFURAL	98011
84.16	43285	2-HEXENE	
72.20	43911	2-ME-BUTANE	78784
58.10	43910	2-ME-PROPANE	75285
100.20	43263	2-METHYL HEXANE	591764
70.13	43225	2-METHYL-1-BUTENE	563462
84.16	98040	2-METHYL-1-PENTENE	763291
70.13	43228	2-METHYL-2-BUTENE	513359
84.16	43284	2-METHYL-2-PENTENE	625274
114.19	43563	2-METHYL-3-HEXANONE	7379126
156.32	99918	2-METHYLDECANE	
114.23	43296	2-METHYLHEPTANE	592278
128.26	90008	2-METHYLOCTANE	
86.17	43229	2-METHYLPENTANE	107835
100.20	90040	3,3 DIMETHYLPENTANE	562492
142.29	99911	3,4 DIMETHYLOCTANE	
128.26	90004	3,5 DIMETHYLHEPTANE	
128.26	43271	3,5,5-TRIMETHYLHEXANE	
148.68	43836	3-(CHLOROMETHYL)-HEPTANE	
98.19	98041	3-HEPTENE	
86.17	43230	3-METHYL PENTANE	96140
70.13	43223	3-METHYL-1-BUTENE	563451
84.16	43211	3-METHYL-1-PENTENE	760203
84.16	43270	3-METHYL-T-2-PENTENE	922612
114.23	43298	3-METHYLHEPTANE	
100.20	43295	3-METHYLHEXANE	589344
128.26	90015	3-METHYLOCTANE	
198.17	46111	4,4-METHYLENE DIANILINE	101779
84.16	90007	4-METHYL-1-PENTENE	691372
84.18	43293	4-METHYL-T-2-PENTENE	27236460
107.17	46114	4-METHYLANILINE	100618

TABLE D-1. (Continued)

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MOLECULAR WEIGHT	SAROAD NUMBER	SPECIES NAME	CAS NUMBER
114.23	43297	4-METHYLHEPTANE	589537
128.26	90016	4-METHYLOCTANE	
132.20	45241	4-PHENYL-1-BUTENE	768569
136.24	43256	A-PINENE	80568
154.21	46706	ACENAPHTHENE	83329
152.20	46705	ACENAPHTHYLENE	208968
44.05	43503	ACETALDEHYDE	75070
60.05	43404	ACETIC ACID	64197
102.09	43604	ACETIC ANHYDRIDE	108247
58.08	43551	ACETONE	67641
26.04	43206	ACETYLENE	74862
56.07	43505	ACROLEIN	107028
72.06	43407	ACRYLIC ACID	79107
53.06	43704	ACRYLONITRILE	107131
146.14	43409	ADIPIC ACID	124049
100.00	43132	ALIPHATICS	
72.10	43570	ALKENE KETONE	
223.23	46103	AMINOANTHRAQUINONE	82451
93.13	45701	ANILINE	62533
276.34	46725	ANTHANTHRENE	191264
178.23	46709	ANTHRACENE	120127
208.23	46102	ANTHRAQUINONE	84651
136.24	90052	B-PHELLANDRENE	
136.24	43257	B-PINENE	127913
106.13	45501	BENZALDEHYDE	100527
78.11	45201	BENZENE	71432
228.30	46716	BENZO (a) ANTHRACENE	56553
252.32	46719	BENZO (a) PYRENE	50328
252.32	46717	BENZO (b) FLUORANTHENE	205992
252.32	46724	BENZO (e) PYRENE	192972
276.34	46721	BENZO (g,h,i) PERYLENE	191242
252.32	46718	BENZO (k) FLUORANTHENE	207089
228.30	46735	BENZO(c)PHENANTHRENE	195197
252.32	46714	BENZO(g,h,i) FLUORANTHENE	
122.13	45402	BENZOIC ACID	65850
252.32	46742	BENZOPYRENES	
135.19	46602	BENZOTHIAZOLE	95169
126.59	45810	BENZYL CHLORIDE	100447
154.21	45226	BIPHENYL	92524
170.22	45330	BIPHENYLOL	90437
262.03	45704	BROMODINITROANILINE	1817738
247.02	45705	BROMODINITROBENZENE	

TABLE D-1. (Continued)

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MOLECULAR WEIGHT	SAROAD NUMBER	SPECIES NAME	CAS NUMBER
56.10	43213	BUTENE	106989
128.21	43472	BUTOXYBUTENE	
162.23	43337	BUTOXYETHOXYETHANOL	112345
220.26	43469	BUTOXYETHOXYETHANOL ACETATE	124174
128.17	43440	BUTYL ACRYLATE	141322
134.21	45235	BUTYL BENZENE	104518
178.23	45455	BUTYL BENZOATE	136607
162.23	43379	BUTYL CARBITOL	112345
118.17	43308	BUTYL CELLOSOLVE	111762
312.39	45477	BUTYLBENZYLPHTHALATE	85687
140.27	90101	BUTYLCYCLOHEXANE	1678939
264.32	45456	BUTYLISOPROPYLPHTHALATE	
72.12	43510	BUTYRALDEHYDE	123728
16.04	99101	C-1 COMPOUNDS	
140.00	99110	C-10 COMPOUNDS	
154.00	99111	C-11 COMPOUNDS	
168.00	99112	C-12 COMPOUNDS	
182.00	99113	C-13 COMPOUNDS	
196.00	99114	C-14 COMPOUNDS	
210.00	99115	C-15 COMPOUNDS	
224.00	99116	C-16 COMPOUNDS	
238.00	99117	C-17 COMPOUNDS	
252.00	99118	C-18 COMPOUNDS	
266.00	99119	C-19 COMPOUNDS	
28.55	99102	C-2 COMPOUNDS	
84.16	98035	C-2-HEXENE	592438
112.21	90013	C-2-OCTENE	
280.00	99120	C-20 COMPOUNDS	
294.00	99121	C-21 COMPOUNDS	
308.00	99122	C-22 COMPOUNDS	
322.00	99123	C-23 COMPOUNDS	
336.00	99124	C-24 COMPOUNDS	
350.00	99125	C-25 COMPOUNDS	
364.00	99126	C-26 COMPOUNDS	
378.00	99127	C-27 COMPOUNDS	
392.00	99128	C-28 COMPOUNDS	
406.00	99129	C-29 COMPOUNDS	
42.08	99103	C-3 COMPOUNDS	
84.16	43283	C-3-HEXENE	
420.00	99130	C-30 COMPOUNDS	
434.00	99131	C-31 COMPOUNDS	
448.00	99132	C-32 COMPOUNDS	

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MOLECULAR WEIGHT	SAROAD NUMBER	SPECIES NAME	CAS NUMBER
462.00	99133	C-33 COMPOUNDS	
476.00	99134	C-34 COMPOUNDS	
490.00	99135	C-35 COMPOUNDS	
504.00	99136	C-36 COMPOUNDS	
518.00	99137	C-37 COMPOUNDS	
532.00	99138	C-38 COMPOUNDS	
546.00	99139	C-39 COMPOUNDS	
57.08	99104	C-4 COMPOUNDS	
560.00	99140	C-40 COMPOUNDS	
574.00	99141	C-41 COMPOUNDS	
588.00	99142	C-42 COMPOUNDS	
602.00	99143	C-43 COMPOUNDS	
71.00	99105	C-5 COMPOUNDS	
79.12	99106	C-6 COMPOUNDS	
93.18	99107	C-7 COMPOUNDS	
98.19	43115	C-7 CYCLOPARAFFINS	
112.00	99108	C-8 COMPOUNDS	
112.23	43116	C-8 CYCLOPARAFFINS	
112.23	43138	C-8 OLEFINS	
126.00	99109	C-9 COMPOUNDS	
126.26	43117	C-9 CYCLOPARAFFINS	
134.22	45110	C10 AROMATIC	
140.27	43125	C10 OLEFINS	
142.28	43135	C10 PARAFFINS	
132.22	45111	C10H12	
136.24	43153	C10H16	
152.24	43396	C10H16O	
154.29	43146	C11 OLEFINS	
142.20	45113	C11H10	
162.23	45610	C11H14O	
168.32	43147	C12 OLEFINS	
166.31	43152	C12H22	
226.45	43137	C16 BRANCHED ALKANE	
146.23	46711	C2 ALKYL INDAN	
112.22	43126	C2 CYCLOHEXANE	
158.24	46729	C2-ALKYL-ANTHRACENES	
256.35	46739	C2-ALKYL-BENZANTHRACENES	
230.31	46740	C2-ALKYL-BENZOPHENANTHRENES	
256.34	46741	C2-ALKYL-CHRYSENES	
206.28	46730	C2-ALKYL-PHENANTHRENES	
156.23	46746	C2-ALKYLNAPHTHALENE	
126.24	43127	C3 CYCLOHEXANE	

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MOLECULAR WEIGHT	SAROAD NUMBER	SPECIES NAME	CAS NUMBER
146.23	45250	C3-ALKYLSTYRENE	
134.21	45109	C3/C4/C5 ALKYLBENZENES	
140.27	43129	C4 SUBSTITUTED CYCLOHEXANE	
154.26	43467	C4 SUBSTITUTED CYCLOHEXANONE	
150.22	45303	C4-ALKYLPHENOLS	
160.26	45248	C4-ALKYLSTYRENES	
154.30	43128	C5 CYCLOHEXANE	
130.19	43459	C5 ESTER	
70.13	43143	C5 OLEFIN	
72.15	43144	C5 PARAFFIN	
70.13	43145	C5 PARAFFIN/OLEFIN	
154.30	43130	C5 SUBSTITUTED CYCLOHEXANE	
148.24	45245	C5-ALKYLBENZENES	
146.25	45246	C5-ALKYLBENZENES (UNSAT.)	
164.25	45304	C5-ALKYLPHENOLS	
86.13	43399	C5H10O	
84.16	43289	C6 OLEFINS	
168.32	43131	C6 SUBSTITUTED CYCLOHEXANE	
162.27	45247	C6-ALKYLBENZENE	
222.47	90019	C6H18O3SI3	
98.18	43294	C7 OLEFINS	
100.20	43142	C7 PARAFFINS	
176.30	45249	C7-ALKYLBENZENE	
156.31	43140	C7-C16 PARAFFINS	
96.17	43154	C7H12	
112.17	43395	C7H12O	
114.23	43141	C8 PARAFFIN	
122.16	45310	C8 PHENOLS	
110.20	43149	C8H14	
296.60	90020	C8H24O4SI4	
126.24	43124	C9 OLEFINS	
128.25	43136	C9 PARAFFIN	
136.19	45311	C9 PHENOLS	
136.24	90050	CAMPHENE	5794036
113.16	43779	CAPROLACTAM	105602
134.18	43377	CARBITOL	111900
76.13	43934	CARBON SULFIDE	75150
153.84	43804	CARBON TETRACHLORIDE	56235
60.08	43933	CARBONYL SULFIDE	433581
204.36	90130	CARYOPHYLLENE	87445
90.12	43311	CELLOSOLVE	110805
132.16	43452	CELLOSOLVE ACETATE	111159

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MOLECULAR WEIGHT	SAROAD NUMBER	SPECIES NAME	CAS NUMBER
112.56	45801	CHLOROBENZENE	108907
86.47	43840	CHLORODIFLUOROMETHANE	75456
119.39	43803	CHLOROFORM	67663
154.47	43842	CHLOROPENTAFLUOROETHANE	76153
88.54	43862	CHLOROPRENE	126998
104.46	43845	CHLOROTRIFLUOROMETHANE	75729
228.29	46715	CHRYSENE	218019
112.22	90038	CIS-1,4 DIMETHYLCYCLOHEXANE	624293
56.11	43217	CIS-2-BUTENE	590181
70.13	43227	CIS-2-PENTENE	627203
300.36	46726	CORONENE	191071
130.19	46210	CREOSOTE	8001589
108.14	45605	CRESOL	1319773
70.09	43515	CROTONALDEHYDE	123739
120.20	45210	CUMENE (ISOPROPYL BENZENE)	98828
84.16	43248	CYCLOHEXANE	110827
100.16	43317	CYCLOHEXANOL	108930
98.15	43561	CYCLOHEXANONE	108941
82.14	43273	CYCLOHEXENE	110838
226.28	46734	CYCLOPENTA(c,d)PYRENE	27208373
247.36	46731	CYCLOPENTA-ANTHRACENES	
190.25	46732	CYCLOPENTA-PHENANTHRENES	
70.14	43242	CYCLOPENTANE	287923
68.11	43292	CYCLOPENTENE	142290
138.25	90033	CYCLOPENTYLCYCLOPENTANE	
136.24	90053	D-LIMONENE	5989275
138.25	46753	DECALINS	91178
32.04	99933	DENATURANT	
238.37	45230	DI(ETHYLPHENYL) ETHANE	
390.56	45470	DI-C8 ALKYL PHTHALATE	
116.18	43320	DIACETONE ALCOHOL	123422
278.35	46743	DIBENZANTHRACENES	
278.35	46722	DIBENZO(a,h) ANTHRACENE	53703
302.38	46745	DIBENZOPYRENES	
278.36	46744	DIBENZPHENANTHRENES	
130.23	43372	DIBUTYL ETHER	142961
278.35	45452	DIBUTYL PHTHALATE	84742
147.01	45808	DICHLOROBENZENES	2531226
120.91	43823	DICHLORODIFLUOROMETHANE	75718
84.94	43802	DICHLOROMETHANE	75092
170.92	43841	DICHLOROTETRAFLUORETHANE	76142
140.27	98062	DIETHYLCYCLOHEXANE	

TABLE D-1. (Continued)

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MOLECULAR WEIGHT	SAROAD NUMBER	SPECIES NAME	CAS NUMBER
106.12	43373	DIETHYLENE GLYCOL	111466
111.20	90110	DIETHYLMETHYLCYCLOHEXANES	
130.19	46751	DIHYDRONAPTHALENE	
160.17	46204	DIHYDROXYNAPTHALENEDIONE	
162.28	45236	DIISOPROPYL BENZENE	
59.11	43780	DIMETHYL ALKYL AMINES	
73.09	43450	DIMETHYL FORMAMIDE	68122
156.23	46703	DIMETHYL NAPTHALENE	28804888
194.19	45451	DIMETHYL PHTHALATE	131113
194.19	45450	DIMETHYL TEREPHTHALATE	120616
136.19	45320	DIMETHYLBENZYLALCOHOL	
86.18	90060	DIMETHYLBUTANE	79298
118.00	43471	DIMETHYLBUTANEDIOATE	
84.16	90061	DIMETHYLBUTENE	
168.32	90114	DIMETHYLBUTYLCYCLOHEXANE	
98.14	43565	DIMETHYLCYCLOBUTANONE	
112.24	98059	DIMETHYLCYCLOHEXANE	
98.19	90064	DIMETHYLCYCLOPENTANE	
96.17	90065	DIMETHYLCYCLOPENTENES	
170.34	90074	DIMETHYLDECANE	
46.07	43350	DIMETHYLETHER	115106
178.23	45404	DIMETHYLETHYLBENZOIC ACID	
140.26	90069	DIMETHYLETHYLCYCLOHEXANE	
128.26	98091	DIMETHYLHEPTANES	
144.26	43333	DIMETHYLHEPTANOL	
110.20	90068	DIMETHYLHEXADIENE	
174.20	43476	DIMETHYLHEXANEDIOATE	
114.23	90067	DIMETHYLHEXANES	
112.20	43286	DIMETHYLHEXENE	
146.23	46750	DIMETHYLINDANS	
144.22	46752	DIMETHYLINDENE	
158.20	46115	DIMETHYLNAPHTHYRIDINE	
156.31	90076	DIMETHYLNONANES	
142.28	90070	DIMETHYLOCTANES	
158.32	43332	DIMETHYLOCTANOL	106218
140.27	90124	DIMETHYLOCTENES	
138.25	90112	DIMETHYLOCTYNE	
100.20	90062	DIMETHYLPENTANE	
160.17	43477	DIMETHYLPENTANEDIOATE	
116.20	43331	DIMETHYLPENTANOL	10143234
98.19	90063	DIMETHYLPENTENE	
184.36	90071	DIMETHYLUNDECANE	

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MOLECULAR WEIGHT	SAROAD NUMBER	SPECIES NAME	CAS NUMBER
182.27	45232	DIPHENYL ETHANE	103297
250.30	45454	DIPROPYL PHTHALATE	131168
134.18	43374	DIPROPYLENE GLYCOL	106627
130.20	45229	DIVINYL BENZENE	1321740
168.32	90001	DODECENE	112414
282.56	90126	EICOSANE	112958
92.53	43863	EPICHLOROHYDRIN	106898
30.07	43202	ETHANE	74840
61.08	43777	ETHANOLAMINE	141435
88.10	43433	ETHYL ACETATE	141786
100.11	43438	ETHYL ACRYLATE	140885
46.07	43302	ETHYL ALCOHOL	64175
64.52	43812	ETHYL CHLORIDE	75003
74.12	43351	ETHYL ETHER	60297
62.13	43902	ETHYL MERCAPTAN	75081
132.21	45228	ETHYL STYRENE	
210.32	45233	ETHYL-PHENYL-PHENYL-ETHANE	
45.09	43721	ETHYLAMINE	75057
106.16	45203	ETHYLBENZENE	100414
223.42	90086	ETHYLBICYCLOHEPTANE	
112.23	43288	ETHYLCYCLOHEXANE	1678917
98.19	98057	ETHYLCYCLOPENTANE	1640897
96.17	90079	ETHYLCYCLOPENTENE	
134.22	45243	ETHYLDIMETHYLBENZENE	
140.27	90089	ETHYLDIMETHYLCYCLOHEXANE	
172.35	90129	ETHYLDIMETHYLOCTANE	
128.26	90087	ETHYLDIMETHYLPENTANE	
150.22	45302	ETHYLDIMETHYLPHENOL	
28.05	43203	ETHYLENE	74851
187.88	43837	ETHYLENE DIBROMIDE	106934
99.00	43815	ETHYLENE DICHLORIDE	107062
62.07	43370	ETHYLENE GLYCOL	107211
44.05	43601	ETHYLENE OXIDE	75218
45.08	43778	ETHYLENEAMINES	
96.14	43392	ETHYLFURAN	
128.26	90084	ETHYLHEPTANE	
126.24	98082	ETHYLHEPTENE	
114.23	90081	ETHYLHEXANE	
144.24	43473	ETHYLHEXANOATE	
146.23	46754	ETHYLINDAN	
88.15	98106	ETHYLISOPROPYL ETHER	
126.24	90083	ETHYLMETHYLCYCLOHEXANES	

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MOLECULAR WEIGHT	SAROAD NUMBER	SPECIES NAME	CAS NUMBER
112.21	90080	ETHYLMETHYLCYCLOPENTANE	
128.26	90082	ETHYLMETHYLHEXANE	
156.31	90085	ETHYLMETHYLOCTANE	
142.29	90077	ETHYLOCTANE	
140.27	90075	ETHYLOCTENE	
98.19	90078	ETHYLPENTENE	
154.29	90090	ETHYLPROPYLCYCLOHEXANES	
120.19	45238	ETHYLTOLUENE	
202.26	46710	FLUORANTHENE	206440
166.22	46707	FLUORENE	86737
30.03	43502	FORMALDEHYDE	50000
46.03	43403	FORMIC ACID	64186
98.10	45604	FURFURYL ALCOHOL	98000
92.09	43380	GLYCEROL	56815
61.09	43368	GLYCOL	
106.14	43367	GLYCOL ETHER	111466
58.04	43513	GLYOXAL	107222
296.59	90125	HENEICOSANE	629947
110.17	90059	HEPTADIENAL	5910859
100.20	43232	HEPTANE	142825
98.18	43264	HEPTENE	
226.45	90030	HEXADECANE	544763
256.48	43410	HEXADECANOIC ACID	57103
96.14	90058	HEXADIENAL	142836
138.01	43843	HEXAFLUOROETHANE	76164
116.20	43776	HEXAMETHYLENEDIAMINE	124094
100.16	43512	HEXANAL	66251
86.17	43231	HEXANE	110543
84.16	90056	HEXENE	
118.18	43371	HEXYLENE GLYCOL	107415
82.15	90037	HEXYNE	
118.18	98044	INDANE	496117
116.16	46712	INDENE	95136
276.34	46720	INDENO(1,2,3-cd) PYRENE	193395
72.15	43221	ISO PENTANE	78784
58.12	43214	ISO-BUTANE	75285
60.09	43304	ISO-PROPYL ALCOHOL	67630
88.15	43330	ISOAMYL ALCOHOL	123513
116.16	43446	ISOBUTYL ACETATE	110190
128.19	43468	ISOBUTYL ACRYLATE	106638
74.12	43306	ISOBUTYL ALCOHOL	78831
144.21	43451	ISOBUTYL ISOBUTYRATE	297858

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MOLECULAR WEIGHT	SAROAD NUMBER	SPECIES NAME	CAS NUMBER
134.22	99915	ISOBUTYLBENZENE	538932
56.10	43215	ISOBUTYLENE	115117
72.11	43511	ISOBUTYRALDEHYDE	78842
56.10	43120	ISOMERS OF BUTENE	
134.22	45105	ISOMERS OF BUTYLBENZENE	
130.19	45112	ISOMERS OF C10H10	
138.25	43150	ISOMERS OF C10H18	
152.28	43151	ISOMERS OF C11H20	
124.23	43148	ISOMERS OF C9H16	
142.28	43109	ISOMERS OF DECANE	
134.21	45106	ISOMERS OF DIETHYLBENZENE	
170.32	43111	ISOMERS OF DODECANE	
120.19	45104	ISOMERS OF ETHYLTOLUENE	
240.47	43155	ISOMERS OF HEPTADECANE	
100.20	43106	ISOMERS OF HEPTANE	
86.17	43105	ISOMERS OF HEXANE	
128.25	43108	ISOMERS OF NONANE	
254.50	43156	ISOMERS OF OCTADECANE	
114.23	43107	ISOMERS OF OCTANE	
212.41	43114	ISOMERS OF PENTADECANE	
72.15	43122	ISOMERS OF PENTANE	
70.13	43121	ISOMERS OF PENTENE	
120.19	45108	ISOMERS OF PROPYLBENZENE	
198.38	43113	ISOMERS OF TETRADECANE	
184.36	43112	ISOMERS OF TRIDECANE	
156.30	43110	ISOMERS OF UNDECANE	
106.16	45102	ISOMERS OF XYLENE	1330207
68.12	43243	ISOPRENE	78795
102.13	43444	ISOPROPYL ACETATE	108214
126.25	90128	ISOPROPYLCYCLOHEXANE	
113.22	90116	ISOPROPYLCYCLOPENTANE	
140.27	90111	ISOPROPYLMETHYLCYCLOHEXANE	
86.14	98056	ISOVALERALDEHYDE	590863
114.00	43119	LACTOL SPIRITS	
136.24	90117	LIMONENE	5989275
147.01	45806	M-DICHLOROBENZENE	541731
134.22	45218	M-DIETHYLBENZENE	141935
120.19	45212	M-ETHYLTOLUENE	620144
106.16	45205	M-XYLENE	108383
106.16	90010	M-XYLENE AND P-XYLENE	
98.06	43603	MALEIC ANHYDRIDE	108316
16.04	43201	METHANE	74828

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MOLECULAR WEIGHT	SAROAD NUMBER	SPECIES NAME	CAS NUMBER
120.15	43335	METHOXYETHOXYETHANOL	
116.00	43569	METHOXYMETHYLBUTANONE	
158.20	46203	METHOXYNAPHTHALENE	
86.09	43437	METHYL ACRYLATE	96333
32.04	43301	METHYL ALCOHOL	67561
114.21	43562	METHYL AMYL KETONE	110430
168.24	45227	METHYL BIPHENYL	
100.16	43559	METHYL BUTYL KETONE	591786
214.35	43460	METHYL C11 ESTER	
228.37	43461	METHYL C12 ESTER	
242.40	43462	METHYL C13 ESTER	
256.43	43463	METHYL C14 ESTER	
270.45	43464	METHYL C15 ESTER	
326.56	43465	METHYL C19 ESTER	
340.59	43466	METHYL C20 ESTER	
120.15	43378	METHYL CARBITOL	111773
76.11	43310	METHYL CELLOSOLVE	109864
50.49	43801	METHYL CHLORIDE	74873
214.35	43470	METHYL DODECANOATE	111820
72.10	43552	METHYL ETHYL KETONE	78933
60.05	43430	METHYL FORMATE	107313
72.07	43514	METHYL GLYOXAL	78988
100.16	43560	METHYL ISOBUTYL KETONE	108101
100.13	43441	METHYL METHACRYLATE	80626
242.41	43455	METHYL MYRISTATE	124107
142.20	46702	METHYL NAPHTHALENES	
270.46	43454	METHYL PALMITATE	112390
298.52	43456	METHYL STEARATE	112618
118.19	45221	METHYL STYRENE	25013154
88.15	43376	METHYL T-BUTYL ETHER	628284
192.26	46727	METHYL-ANTHRACENES	
242.33	46736	METHYL-BENZANTHRACENES	
242.33	46737	METHYL-BENZPHENANTHRENES	
242.33	46738	METHYL-CHRYSENES	
216.29	46733	METHYL-FLUORANTHENES	
192.26	46728	METHYL-PHENANTHRENES	
74.08	43432	METHYLACETATE	79209
134.17	45550	METHYLACETOPHENONE	
40.06	43209	METHYLACETYLENE (PROPYNE)	74997
76.11	43457	METHYLAL	109875
54.09	90011	METHYLALLENE	
68.12	90024	METHYLBUTADIENE	

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MOLECULAR WEIGHT	SAROAD NUMBER	SPECIES NAME	CAS NUMBER
70.13	90023	METHYLBUTENE	
94.15	90041	METHYLCYCLOHEXADIENE	4313579
98.21	43261	METHYLCYCLOHEXANE	108872
96.17	90046	METHYLCYCLOHEXENE	
127.25	90017	METHYLCYCLOOCTANE	
80.14	90027	METHYLCYCLOPENTADIENE	
84.16	43262	METHYLCYCLOPENTANE	96377
82.14	43272	METHYLCYCLOPENTENE	693890
152.28	46748	METHYLDECALINS	
156.32	90048	METHYLDECANES	
154.29	90107	METHYLDECENE	
144.22	46749	METHYLDIHYDRONAPHTHALENE	
184.36	90108	METHYLDODECANE	
173.85	43805	METHYLENE BROMIDE	74953
250.27	45730	METHYLENE(b)4-PHENYLISOCYANATE	101688
142.22	90121	METHYLETHYLHEPTANE	
144.22	43475	METHYLETHYLPENTANOATE	
114.23	90045	METHYLHEPTANE	
130.26	43334	METHYLHEPTANOL	
112.22	98090	METHYLHEPTENE	
110.20	90044	METHYLHEPTYNE	
96.17	90039	METHYLHEXADIENE	
114.19	90043	METHYLHEXANAL	
100.20	90028	METHYLHEXANE	
98.18	90029	METHYLHEXENES	
132.21	46747	METHYLINDANS	
130.19	90119	METHYLINDENE	
140.27	90073	METHYLISOPROPYLCYCLOHEXANE	
100.13	43474	METHYLMETHYLPROPENOATE	
142.28	90047	METHYLNONANE	
140.26	90106	METHYLNONENE	
128.26	90104	METHYLOCTANES	
86.17	90026	METHYLPENTANE	
84.16	90025	METHYLPENTENES	
58.12	90021	METHYLPROPANE	
56.10	90022	METHYLPROPENE	
140.27	90072	METHYLPROPYLCYCLOHEXANES	
184.36	90102	METHYLPROPYLNONANE	
170.34	90049	METHYLUNDECANE	
114.00	43118	MINERAL SPIRITS	64475850
136.24	90051	MYRCENE	123353
58.12	43212	N-BUTANE	106978

TABLE D-1. (Continued)

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MOLECULAR WEIGHT	SAROAD NUMBER	SPECIES NAME	CAS NUMBER
116.16	43435	N-BUTYL ACETATE	138227
74.12	43305	N-BUTYL ALCOHOL	71363
142.28	43238	N-DECANE	124185
170.33	43255	N-DODECANE	112403
240.46	90031	N-HEPTADECANE	629787
212.41	43260	N-PENTADECANE	629629
72.15	43220	N-PENTANE	109660
70.14	90035	N-PENTENE	25377724
154.30	98063	N-PENTYLCYCLOHEXANE	
169.24	45706	N-PHENYLANILINE	
102.15	43434	N-PROPYL ACETATE	109604
60.10	43303	N-PROPYL ALCOHOL	71238
120.19	45209	N-PROPYLBENZENE	103651
198.38	43259	N-TETRADECANE	629594
184.36	43258	N-TRIDECANE	629505
156.31	43241	N-UNDECANE	1120214
114.00	45101	NAPHTHA	8030306
128.17	46701	NAPTHALENE	91123
123.11	45702	NITROBENZENE	98953
268.53	90127	NONADECANE	
124.23	90066	NONADIENE	
128.25	43235	NONANE	111842
126.24	90100	NONENE	
140.22	43568	NONENONE	
220.36	45301	NONYLPHENOL	25154523
147.01	45805	O-DICHLOROBENZENE	95501
120.19	45211	O-ETHYLTOLUENE	611143
106.16	45204	O-XYLENE	95476
244.00	46202	OCTAHYDROINDENES	
225.20	90118	OCTAHYDROPENTALENE	
296.62	43950	OCTAMETHYLCYCLOTETRASILOXANE	556672
114.23	43233	OCTANE	111659
130.26	43336	OCTANOL	
108.19	90099	OCTATRIENE	
112.21	43265	OCTENE	111660
86.00	43650	OXYGENATES	
147.01	45807	P-DICHLOROBENZENE	106467
120.16	45502	P-TOLUALDEHYDE	104870
106.16	45206	P-XYLENE	106423
256.43	43408	PALMITIC ACID	57103
352.43	43133	PARAFFINS (C16-C34)	
65.14	43139	PARAFFINS (C2-C7)	

TABLE D-1. (Continued)

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MOLECULAR WEIGHT	SAROAD NUMBER	SPECIES NAME	CAS NUMBER
197.38	43134	PARAFFINS/OLEFINS (C12-C16)	
68.13	90103	PENTADIENE	
88.15	43319	PENTANOL	71410
66.10	90054	PENTENYNE	
148.25	45231	PENTYL BENZENE	
154.29	90055	PENTYLCYCLOHEXANE	
152.00	90113	PENTYLIDENECYCLOHEXANE	
68.12	90036	PENTYNE	
165.83	43817	PERCHLOROETHYLENE	127184
252.32	46723	PERYLENE	198550
178.23	46708	PHENANTHRENE	85018
94.11	45300	PHENOL	108952
119.13	46112	PHENYL ISOCYANATE	103719
204.27	46704	PHENYLNAPHTHALENES	
148.12	45601	PHTHALIC ANHYDRIDE	85449
68.12	45750	PIPERYLENE	504609
200.00	43381	POLYETHYLENE GLYCOL	25322683
40.06	43208	PROPADIENE	463490
44.09	43204	PROPANE	74986
42.08	43205	PROPENE	115071
124.33	90105	PROPENYLCYCLOHEXANE	
58.08	43504	PROPIONALDEHYDE	123386
74.08	43405	PROPIONIC ACID	79094
126.24	90120	PROPYLCYCLOHEXANE	
112.99	43838	PROPYLENE DICHLORIDE	26638197
76.11	43369	PROPYLENE GLYCOL	57556
58.08	43602	PROPYLENE OXIDE	75569
140.27	90109	PROPYLHEPTENES	
202.26	46713	PYRENE	129000
74.12	43314	S-BUTYL ALCOHOL	78922
134.21	45216	S-BUTYLBENZENE	135988
76.08	43951	SILOXANE	
104.14	45220	STYRENE	100425
218.24	43458	SUBSTITUTED C9 ESTER (C12)	
132.20	45242	T-1-PHENYLBUTENE	
56.11	43216	T-2-BUTENE	624646
84.16	98034	T-2-HEXENE	40504557
126.24	90034	T-2-NONENE	6434782
84.16	90042	T-3-HEXENE	13269528
166.14	45403	TEREPHTHALIC ACID	100210
136.23	43123	TERPENES	
74.12	43309	TERT-BUTYL ALCOHOL	75650

TABLE D-1. (Continued)

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MOLECULAR WEIGHT	SAROAD NUMBER	SPECIES NAME	CAS NUMBER
134.21	45215	TERT-BUTYLBENZENE	98066
215.90	45831	TETRACHLOROBENZENES	
88.01	43839	TETRAFLUOROMETHANE	75730
134.22	45244	TETRAMETHYLBENZENE	
110.19	90091	TETRAMETHYLCYCLOBUTENE	
126.24	90098	TETRAMETHYLCYCLOPENTANE	
142.28	90122	TETRAMETHYLHEXANE	
142.24	43567	TETRAMETHYLPENTANONE	
88.23	43952	TETRAMETHYLSILANE	75763
132.25	46601	TETRAMETHYLTHIOUREA	2782914
92.13	45202	TOLUENE	108883
174.17	45731	TOLUENE DIISOCYANATE	58849
117.15	45732	TOLUENEISOCYANIDE	
93.13	45740	TOTAL AROMATIC AMINES	
72.12	43520	TOTAL C2-C5 ALDEHYDES	
70.13	43226	TRANS-2-PENTENE	646048
181.45	45830	TRICHLOROBENZENES	
131.40	43824	TRICHLOROETHYLENE	79016
137.38	43811	TRICHLOROFLUOROMETHANE	75694
187.38	43821	TRICHLOROTRIFLUOROETHANE	76131
150.17	43375	TRIETHYLENE GLYCOL	112276
70.01	43844	TRIFLUOROMETHANE	75467
59.11	43740	TRIMETHYLAMINE	75503
120.19	45107	TRIMETHYLBENZENE	25551137
126.27	98060	TRIMETHYLCYCLOHEXANES	3073663
142.24	43397	TRIMETHYLCYCLOHEXANOL	
112.16	98058	TRIMETHYLCYCLOPENTANE	
126.20	43566	TRIMETHYLCYCLOPENTANONE	
184.36	90097	TRIMETHYLDECANE	
182.35	98083	TRIMETHYLDECENE	
92.00	43822	TRIMETHYLFLUOROSILANE	
142.29	90094	TRIMETHYLHEPTANES	
128.26	90115	TRIMETHYLHEXANES	
126.24	90095	TRIMETHYLHEXENE	
160.26	46755	TRIMETHYLINDAN	
168.32	90123	TRIMETHYLNONENE	
156.31	90096	TRIMETHYLOCTANES	
110.20	90093	TRIMETHYLPENTADIENE	
114.22	90092	TRIMETHYLPENTANE	
86.00	99999	UNIDENTIFIED	
86.09	43453	VINYL ACETATE	108054
62.50	43860	VINYL CHLORIDE	75014

TABLE D-1. (Continued)

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MOLECULAR WEIGHT	SAROAD NUMBER	SPECIES NAME	CAS NUMBER
230.00	45401	XYLENE BASE ACIDS	

TABLE D-2. SPECIES DATA FILE (ACCORDING TO SAROAD CODE)

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MOLECULAR WEIGHT	SAROAD NUMBER	SPECIES NAME	CAS NUMBER
86.17	43105	ISOMERS OF HEXANE	
100.20	43106	ISOMERS OF HEPTANE	
114.23	43107	ISOMERS OF OCTANE	
128.25	43108	ISOMERS OF NONANE	
142.28	43109	ISOMERS OF DECANE	
156.30	43110	ISOMERS OF UNDECANE	
170.32	43111	ISOMERS OF DODECANE	
184.36	43112	ISOMERS OF TRIDECANE	
198.38	43113	ISOMERS OF TETRADECANE	
212.41	43114	ISOMERS OF PENTADECANE	
98.19	43115	C-7 CYCLOPARAFFINS	
112.23	43116	C-8 CYCLOPARAFFINS	
126.26	43117	C-9 CYCLOPARAFFINS	
114.00	43118	MINERAL SPIRITS	64475850
114.00	43119	LACTOL SPIRITS	
56.10	43120	ISOMERS OF BUTENE	
70.13	43121	ISOMERS OF PENTENE	
72.15	43122	ISOMERS OF PENTANE	
136.23	43123	TERPENES	
126.24	43124	C9 OLEFINS	
140.27	43125	C10 OLEFINS	
112.22	43126	C2 CYCLOHEXANE	
126.24	43127	C3 CYCLOHEXANE	
154.30	43128	C5 CYCLOHEXANE	
140.27	43129	C4 SUBSTITUTED CYCLOHEXANE	
154.30	43130	C5 SUBSTITUTED CYCLOHEXANE	
168.32	43131	C6 SUBSTITUTED CYCLOHEXANE	
100.00	43132	ALIPHATICS	
352.43	43133	PARAFFINS (C16-C34)	
197.38	43134	PARAFFINS/OLEFINS (C12-C16)	
142.28	43135	C10 PARAFFINS	
128.25	43136	C9 PARAFFIN	
226.45	43137	C16 BRANCHED ALKANE	
112.23	43138	C-8 OLEFINS	
65.14	43139	PARAFFINS (C2-C7)	
156.31	43140	C7-C16 PARAFFINS	
114.23	43141	C8 PARAFFIN	
100.20	43142	C7 PARAFFINS	
70.13	43143	C5 OLEFIN	
72.15	43144	C5 PARAFFIN	
70.13	43145	C5 PARAFFIN/OLEFIN	
154.29	43146	C11 OLEFINS	

TABLE D-2. (Continued)

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MOLECULAR WEIGHT	SAROAD NUMBER	SPECIES NAME	CAS NUMBER
168.32	43147	C12 OLEFINS	
124.23	43148	ISOMERS OF C9H16	
110.20	43149	C8H14	
138.25	43150	ISOMERS OF C10H18	
152.28	43151	ISOMERS OF C11H20	
166.31	43152	C12H22	
136.24	43153	C10H16	
96.17	43154	C7H12	
240.47	43155	ISOMERS OF HEPTADECANE	
254.50	43156	ISOMERS OF OCTADECANE	
16.04	43201	METHANE	74828
30.07	43202	ETHANE	74840
28.05	43203	ETHYLENE	74851
44.09	43204	PROPANE	74986
42.08	43205	PROPENE	115071
26.04	43206	ACETYLENE	74862
40.06	43208	PROPADIENE	463490
40.06	43209	METHYLACETYLENE (PROPYNE)	74997
84.16	43211	3-METHYL-1-PENTENE	760203
58.12	43212	N-BUTANE	106978
56.10	43213	BUTENE	106989
58.12	43214	ISO-BUTANE	75285
56.10	43215	ISOBUTYLENE	115117
56.11	43216	T-2-BUTENE	624646
56.11	43217	CIS-2-BUTENE	590181
54.09	43218	1,3-BUTADIENE	106990
72.15	43220	N-PENTANE	109660
72.15	43221	ISO PENTANE	78784
72.17	43222	2,2 DIMETHYLPROPANE	463821
70.13	43223	3-METHYL-1-BUTENE	563451
70.13	43224	1-PENTENE	109671
70.13	43225	2-METHYL-1-BUTENE	563462
70.13	43226	TRANS-2-PENTENE	646048
70.13	43227	CIS-2-PENTENE	627203
70.13	43228	2-METHYL-2-BUTENE	513359
86.17	43229	2-METHYLPENTANE	107835
86.17	43230	3-METHYL PENTANE	96140
86.17	43231	HEXANE	110543
100.20	43232	HEPTANE	142825
114.23	43233	OCTANE	111659
84.16	43234	2,3 DIMETHYL-1-BUTENE	563780
128.25	43235	NONANE	111842

TABLE D-2. (Continued)

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MOLECULAR WEIGHT	SAROAD NUMBER	SPECIES NAME	CAS NUMBER
142.28	43238	N-DECANE	124185
156.31	43241	N-UNDECANE	1120214
70.14	43242	CYCLOPENTANE	287923
68.12	43243	ISOPRENE	78795
84.16	43245	1-HEXENE	592416
100.20	43247	2,4-DIMETHYLPENTANE	108087
84.16	43248	CYCLOHEXANE	110827
114.22	43250	2,2,4-TRIMETHYLPENTANE	540841
114.22	43252	2,3,4-TRIMETHYLPENTANE	565753
170.33	43255	N-DODECANE	112403
136.24	43256	A-PINENE	80568
136.24	43257	B-PINENE	127913
184.36	43258	N-TRIDECANE	629505
198.38	43259	N-TETRADECANE	629594
212.41	43260	N-PENTADECANE	629629
98.21	43261	METHYLCYCLOHEXANE	108872
84.16	43262	METHYLCYCLOPENTANE	96377
100.20	43263	2-METHYL HEXANE	591764
98.18	43264	HEPTENE	
112.21	43265	OCTENE	111660
126.24	43269	1-NONENE	124118
84.16	43270	3-METHYL-T-2-PENTENE	922612
128.26	43271	3,5,5-TRIMETHYLHEXANE	
82.14	43272	METHYLCYCLOPENTENE	693890
82.14	43273	CYCLOHEXENE	110838
100.20	43274	2,3 DIMETHYL PENTANE	565593
86.17	43276	2,3 DIMETHYLBUTANE	79298
114.22	43277	2,4-DIMETHYLHEXANE	
114.22	43278	2,5-DIMETHYLHEXANE	592132
84.16	43279	2-ETHYL-1-BUTENE	760214
114.22	43280	2,3,3 TRIMETHYLPENTANE	
54.09	43281	1-BUTYNE	107006
54.09	43282	2-BUTYNE	503173
84.16	43283	C-3-HEXENE	
84.16	43284	2-METHYL-2-PENTENE	625274
84.16	43285	2-HEXENE	
112.20	43286	DIMETHYLHEXENE	
114.22	43287	2,2 DIMETHYLHEXANE	590738
112.23	43288	ETHYLCYCLOHEXANE	1678917
84.16	43289	C6 OLEFINS	
114.22	43290	2,3 DIMETHYLHEXANE	
86.17	43291	2,2-DIMETHYLBUTANE	75832

TABLE D-2. (Continued)

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MOLECULAR WEIGHT	SAROAD NUMBER	SPECIES NAME	CAS NUMBER
68.11	43292	CYCLOPENTENE	142290
84.18	43293	4-METHYL-T-2-PENTENE	27236460
98.18	43294	C7 OLEFINS	
100.20	43295	3-METHYLHEXANE	589344
114.23	43296	2-METHYLHEPTANE	592278
114.23	43297	4-METHYLHEPTANE	589537
114.23	43298	3-METHYLHEPTANE	
96.17	43299	1-METHYLCYCLOHEXENE	
32.04	43301	METHYL ALCOHOL	67561
46.07	43302	ETHYL ALCOHOL	64175
60.10	43303	N-PROPYL ALCOHOL	71238
60.09	43304	ISO-PROPYL ALCOHOL	67630
74.12	43305	N-BUTYL ALCOHOL	71363
74.12	43306	ISOBUTYL ALCOHOL	78831
118.17	43308	BUTYL CELLOSOLVE	111762
74.12	43309	TERT-BUTYL ALCOHOL	75650
76.11	43310	METHYL CELLOSOLVE	109864
90.12	43311	CELLOSOLVE	110805
162.26	43312	2-(2-BUTOXYETHOXY)-ETHANOL	112345
104.15	43313	1-ETHOXY-2-PROPANOL	
74.12	43314	S-BUTYL ALCOHOL	78922
100.16	43317	CYCLOHEXANOL	108930
130.23	43318	2-ETHYL HEXANOL	104767
88.15	43319	PENTANOL	71410
116.18	43320	DIACETONE ALCOHOL	123422
90.12	43322	1,4 BUTANEDIOL	110634
88.15	43330	ISOAMYL ALCOHOL	123513
116.20	43331	DIMETHYLPENTANOL	10143234
158.32	43332	DIMETHYLOCTANOL	106218
144.26	43333	DIMETHYLHEPTANOL	
130.26	43334	METHYLHEPTANOL	
120.15	43335	METHOXYETHOXYETHANOL	
130.26	43336	OCTANOL	
162.23	43337	BUTOXYETHOXYETHANOL	112345
46.07	43350	DIMETHYLETHER	115106
74.12	43351	ETHYL ETHER	60297
106.14	43367	GLYCOL ETHER	111466
61.09	43368	GLYCOL	
76.11	43369	PROPYLENE GLYCOL	57556
62.07	43370	ETHYLENE GLYCOL	107211
118.18	43371	HEXYLENE GLYCOL	107415
130.23	43372	DIBUTYL ETHER	142961

TABLE D-2. (Continued)

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MOLECULAR WEIGHT	SAROAD NUMBER	SPECIES NAME	CAS NUMBER
106.12	43373	DIETHYLENE GLYCOL	111466
134.18	43374	DIPROPYLENE GLYCOL	106627
150.17	43375	TRIETHYLENE GLYCOL	112276
88.15	43376	METHYL T-BUTYL ETHER	628284
134.18	43377	CARBITOL	111900
120.15	43378	METHYL CARBITOL	111773
162.23	43379	BUTYL CARBITOL	112345
92.09	43380	GLYCEROL	56815
200.00	43381	POLYETHYLENE GLYCOL	25322683
128.19	43391	2-BUTYLTETRAHYDROFURAN	
96.14	43392	ETHYLFURAN	
112.17	43395	C7H12O	
152.24	43396	C10H16O	
142.24	43397	TRIMETHYLCYCLOHEXANOL	
86.13	43399	C5H10O	
46.03	43403	FORMIC ACID	64186
60.05	43404	ACETIC ACID	64197
74.08	43405	PROPIONIC ACID	79094
72.06	43407	ACRYLIC ACID	79107
256.43	43408	PALMITIC ACID	57103
146.14	43409	ADIPIC ACID	124049
256.48	43410	HEXADECANOIC ACID	57103
60.05	43430	METHYL FORMATE	107313
74.08	43432	METHYLACETATE	79209
88.10	43433	ETHYL ACETATE	141786
102.15	43434	N-PROPYL ACETATE	109604
116.16	43435	N-BUTYL ACETATE	138227
86.09	43437	METHYL ACRYLATE	96333
100.11	43438	ETHYL ACRYLATE	140885
128.17	43440	BUTYL ACRYLATE	141322
100.13	43441	METHYL METHACRYLATE	80626
102.13	43444	ISOPROPYL ACETATE	108214
116.16	43446	ISOBUTYL ACETATE	110190
73.09	43450	DIMETHYL FORMAMIDE	68122
144.21	43451	ISOBUTYL ISOBUTYRATE	297858
132.16	43452	CELLOSOLVE ACETATE	111159
86.09	43453	VINYL ACETATE	108054
270.46	43454	METHYL PALMITATE	112390
242.41	43455	METHYL MYRISTATE	124107
298.52	43456	METHYL STEARATE	112618
76.11	43457	METHYLAL	109875
218.24	43458	SUBSTITUTED C9 ESTER (C12)	

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MOLECULAR WEIGHT	SAROAD NUMBER	SPECIES NAME	CAS NUMBER
130.19	43459	C5 ESTER	
214.35	43460	METHYL C11 ESTER	
228.37	43461	METHYL C12 ESTER	
242.40	43462	METHYL C13 ESTER	
256.43	43463	METHYL C14 ESTER	
270.45	43464	METHYL C15 ESTER	
326.56	43465	METHYL C19 ESTER	
340.59	43466	METHYL C20 ESTER	
154.26	43467	C4 SUBSTITUTED CYCLOHEXANONE	
128.19	43468	ISOBUTYL ACRYLATE	106638
220.26	43469	BUTOXYETHOXYETHANOL ACETATE	124174
214.35	43470	METHYL DODECANOATE	111820
118.00	43471	DIMETHYLBUTANEDIOATE	
128.21	43472	BUTOXYBUTENE	
144.24	43473	ETHYLHEXANOATE	
100.13	43474	METHYLMETHYLPROPENOATE	
144.22	43475	METHYLETHYLPENTANOATE	
174.20	43476	DIMETHYLHEXANEDIOATE	
160.17	43477	DIMETHYLPENTANEDIOATE	
30.03	43502	FORMALDEHYDE	50000
44.05	43503	ACETALDEHYDE	75070
58.08	43504	PROPIONALDEHYDE	123386
56.07	43505	ACROLEIN	107028
72.12	43510	BUTYRALDEHYDE	123728
72.11	43511	ISOBUTYRALDEHYDE	78842
100.16	43512	HEXANAL	66251
58.04	43513	GLYOXAL	107222
72.07	43514	METHYL GLYOXAL	78988
70.09	43515	CROTONALDEHYDE	123739
72.12	43520	TOTAL C2-C5 ALDEHYDES	
58.08	43551	ACETONE	67641
72.10	43552	METHYL ETHYL KETONE	78933
100.16	43559	METHYL BUTYL KETONE	591786
100.16	43560	METHYL ISOBUTYL KETONE	108101
98.15	43561	CYCLOHEXANONE	108941
114.21	43562	METHYL AMYL KETONE	110430
114.19	43563	2-METHYL-3-HEXANONE	7379126
98.14	43565	DIMETHYLCYCLOBUTANONE	
126.20	43566	TRIMETHYLCYCLOPENTANONE	
142.24	43567	TETRAMETHYLPENTANONE	
140.22	43568	NONENONE	
116.00	43569	METHOXYMETHYLBUTANONE	

TABLE D-2. (Continued)

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MOLECULAR WEIGHT	SAROAD NUMBER	SPECIES NAME	CAS NUMBER
72.10	43570	ALKENE KETONE	
44.05	43601	ETHYLENE OXIDE	75218
58.08	43602	PROPYLENE OXIDE	75569
98.06	43603	MALEIC ANHYDRIDE	108316
102.09	43604	ACETIC ANHYDRIDE	108247
86.00	43650	OXYGENATES	
53.06	43704	ACRYLONITRILE	107131
45.09	43721	ETHYLAMINE	75057
59.11	43740	TRIMETHYLAMINE	75503
116.20	43776	HEXAMETHYLENEDIAMINE	124094
61.08	43777	ETHANOLAMINE	141435
45.08	43778	ETHYLENEAMINES	
113.16	43779	CAPROLACTAM	105602
59.11	43780	DIMETHYL ALKYL AMINES	
50.49	43801	METHYL CHLORIDE	74873
84.94	43802	DICHLOROMETHANE	75092
119.39	43803	CHLOROFORM	67663
153.84	43804	CARBON TETRACHLORIDE	56235
173.85	43805	METHYLENE BROMIDE	74953
137.38	43811	TRICHLOROFLUOROMETHANE	75694
64.52	43812	ETHYL CHLORIDE	75003
133.42	43814	1,1,1-TRICHLOROETHANE	71556
99.00	43815	ETHYLENE DICHLORIDE	107062
165.83	43817	PERCHLOROETHYLENE	127184
133.42	43820	1,1,2-TRICHLOROETHANE	79005
187.38	43821	TRICHLOROTRIFLUOROETHANE	76131
92.00	43822	TRIMETHYLFLUOROSILANE	
120.91	43823	DICHLORODIFLUOROMETHANE	75718
131.40	43824	TRICHLOROETHYLENE	79016
92.57	43835	1-CHLOROBUTANE	78864
148.68	43836	3-(CHLOROMETHYL)-HEPTANE	
187.88	43837	ETHYLENE DIBROMIDE	106934
112.99	43838	PROPYLENE DICHLORIDE	26638197
88.01	43839	TETRAFLUOROMETHANE	75730
86.47	43840	CHLORODIFLUOROMETHANE	75456
170.92	43841	DICHLOROTETRAFLUORETHANE	76142
154.47	43842	CHLOROPENTAFLUOROETHANE	76153
138.01	43843	HEXAFLUOROETHANE	76164
70.01	43844	TRIFLUOROMETHANE	75467
104.46	43845	CHLOROTRIFLUOROMETHANE	75729
62.50	43860	VINYL CHLORIDE	75014
88.54	43862	CHLOROPRENE	126998

TABLE D-2. (Continued)

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MOLECULAR WEIGHT	SAROAD NUMBER	SPECIES NAME	CAS NUMBER
92.53	43863	EPICHLOROHYDRIN	106898
62.13	43902	ETHYL MERCAPTAN	75081
58.10	43910	2-ME-PROPANE	75285
72.20	43911	2-ME-BUTANE	78784
114.20	43912	2,2,4-TRIME-PENTANE	540841
60.08	43933	CARBONYL SULFIDE	433581
76.13	43934	CARBON SULFIDE	75150
296.62	43950	OCTAMETHYLCYCLOTETRASILOXANE	556672
76.08	43951	SILOXANE	
88.23	43952	TETRAMETHYLSILANE	75763
114.00	45101	NAPHTHA	8030306
106.16	45102	ISOMERS OF XYLENE	1330207
120.19	45104	ISOMERS OF ETHYLTOLUENE	
134.22	45105	ISOMERS OF BUTYLBENZENE	
134.21	45106	ISOMERS OF DIETHYLBENZENE	
120.19	45107	TRIMETHYLBENZENE	25551137
120.19	45108	ISOMERS OF PROPYLBENZENE	
134.21	45109	C3/C4/C5 ALKYLBENZENES	
134.22	45110	C10 AROMATIC	
132.22	45111	C10H12	
130.19	45112	ISOMERS OF C10H10	
142.20	45113	C11H10	
78.11	45201	BENZENE	71432
92.13	45202	TOLUENE	108883
106.16	45203	ETHYLBENZENE	100414
106.16	45204	O-XYLENE	95476
106.16	45205	M-XYLENE	108383
106.16	45206	P-XYLENE	106423
120.19	45207	1,3,5-TRIMETHYLBENZENE	108678
120.19	45208	1,2,4-TRIMETHYLBENZENE	95636
120.19	45209	N-PROPYLBENZENE	103651
120.20	45210	CUMENE (ISOPROPYL BENZENE)	98828
120.19	45211	O-ETHYLTOLUENE	611143
120.19	45212	M-ETHYLTOLUENE	620144
134.21	45215	TERT-BUTYLBENZENE	98066
134.21	45216	S-BUTYLBENZENE	135988
134.22	45217	1,2 DIETHYLBENZENE	135013
134.22	45218	M-DIETHYLBENZENE	141935
104.14	45220	STYRENE	100425
118.19	45221	METHYL STYRENE	25013154
120.19	45225	1,2,3-TRIMETHYLBENZENE	526738
154.21	45226	BIPHENYL	92524

TABLE D-2. (Continued)

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MOLECULAR WEIGHT	SAROAD NUMBER	SPECIES NAME	CAS NUMBER
168.24	45227	METHYL BIPHENYL	
132.21	45228	ETHYL STYRENE	
130.20	45229	DIVINYL BENZENE	1321740
238.37	45230	DI(ETHYLPHENYL) ETHANE	
148.25	45231	PENTYL BENZENE	
182.27	45232	DIPHENYL ETHANE	103297
210.32	45233	ETHYL-PHENYL-PHENYL-ETHANE	
134.21	45235	BUTYL BENZENE	104518
162.28	45236	DIISOPROPYL BENZENE	
134.22	45237	1,2,3,4 TETRAMETHYLBENZENE	488233
120.19	45238	ETHYLTOLUENE	
132.20	45241	4-PHENYL-1-BUTENE	768569
132.20	45242	T-1-PHENYLBUTENE	
134.22	45243	ETHYLDIMETHYLBENZENE	
134.22	45244	TETRAMETHYLBENZENE	
148.24	45245	C5-ALKYLBENZENES	
146.25	45246	C5-ALKYLBENZENES (UNSAT.)	
162.27	45247	C6-ALKYLBENZENE	
160.26	45248	C4-ALKYLSTYRENES	
176.30	45249	C7-ALKYLBENZENE	
146.23	45250	C3-ALKYLSTYRENE	
94.11	45300	PHENOL	108952
220.36	45301	NONYLPHENOL	25154523
150.22	45302	ETHYLDIMETHYLPHENOL	
150.22	45303	C4-ALKYLPHENOLS	
164.25	45304	C5-ALKYLPHENOLS	
122.16	45310	C8 PHENOLS	
136.19	45311	C9 PHENOLS	
136.19	45320	DIMETHYLBENZYLALCOHOL	
170.22	45330	BIPHENYLOL	90437
230.00	45401	XYLENE BASE ACIDS	
122.13	45402	BENZOIC ACID	65850
166.14	45403	TEREPHTHALIC ACID	100210
178.23	45404	DIMETHYLETHYLBENZOIC ACID	
194.19	45450	DIMETHYL TEREPHTHALATE	120616
194.19	45451	DIMETHYL PHTHALATE	131113
278.35	45452	DIBUTYL PHTHALATE	84742
250.30	45454	DIPROPYL PHTHALATE	131168
178.23	45455	BUTYL BENZOATE	136607
264.32	45456	BUTYLISOPROPYLPHTHALATE	
390.56	45470	DI-C8 ALKYL PHTHALATE	
312.39	45477	BUTYLBENZYLPHTHALATE	85687

TABLE D-2. (Continued)

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MOLECULAR WEIGHT	SAROAD NUMBER	SPECIES NAME	CAS NUMBER
106.13	45501	BENZALDEHYDE	100527
120.16	45502	P-TOLUALDEHYDE	104870
96.09	45503	2-FURFURAL	98011
134.17	45550	METHYLACETOPHENONE	
148.12	45601	PHTHALIC ANHYDRIDE	85449
98.10	45604	FURFURYL ALCOHOL	98000
108.14	45605	CRESOL	1319773
162.23	45610	C11H14O	
93.13	45701	ANILINE	62533
123.11	45702	NITROBENZENE	98953
207.02	45703	2,2 DICHLORONITROANILINE	
262.03	45704	BROMODINITROANILINE	1817738
247.02	45705	BROMODINITROBENZENE	
169.24	45706	N-PHENYLANILINE	
250.27	45730	METHYLENE(b)4-PHENYLISOCYANATE	101688
174.17	45731	TOLUENE DIISOCYANATE	58849
117.15	45732	TOLUENEISOCYANIDE	
93.13	45740	TOTAL AROMATIC AMINES	
68.12	45750	PIPERYLENE	504609
112.56	45801	CHLOROBENZENE	108907
147.01	45805	O-DICHLOROBENZENE	95501
147.01	45806	M-DICHLOROBENZENE	541731
147.01	45807	P-DICHLOROBENZENE	106467
147.01	45808	DICHLOROBENZENES	2531226
126.59	45810	BENZYL CHLORIDE	100447
181.45	45830	TRICHLOROBENZENES	
215.90	45831	TETRACHLOROBENZENES	
208.23	46102	ANTHRAQUINONE	84651
223.23	46103	AMINOANTHRAQUINONE	82451
198.17	46111	4,4-METHYLENE DIANILINE	101779
119.13	46112	PHENYL ISOCYANATE	103719
107.17	46114	4-METHYLANILINE	100618
158.20	46115	DIMETHYLNAPHTHYRIDINE	
244.00	46202	OCTAHYDROINDENES	
158.20	46203	METHOXYNAPHTHALENE	
160.17	46204	DIHYDROXYNAPTHALENEDIONE	
130.19	46210	CREOSOTE	8001589
132.25	46601	TETRAMETHYLTHIOUREA	2782914
135.19	46602	BENZOTHIAZOLE	95169
128.17	46701	NAPTHALENE	91123
142.20	46702	METHYL NAPHTHALENES	
156.23	46703	DIMETHYL NAPTHALENE	28804888

TABLE D-2. (Continued)

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MOLECULAR WEIGHT	SAROAD NUMBER	SPECIES NAME	CAS NUMBER
204.27	46704	PHENYLNAPHTHALENES	
152.20	46705	ACENAPHTHYLENE	208968
154.21	46706	ACENAPHTHENE	83329
166.22	46707	FLUORENE	86737
178.23	46708	PHENANTHRENE	85018
178.23	46709	ANTHRACENE	120127
202.26	46710	FLUORANTHENE	206440
146.23	46711	C2 ALKYL INDAN	
116.16	46712	INDENE	95136
202.26	46713	PYRENE	129000
252.32	46714	BENZO(g,h,i) FLUORANTHENE	
228.29	46715	CHRYSENE	218019
228.30	46716	BENZO (a) ANTHRACENE	56553
252.32	46717	BENZO (b) FLUORANTHENE	205992
252.32	46718	BENZO (k) FLUORANTHENE	207089
252.32	46719	BENZO (a) PYRENE	50328
276.34	46720	INDENO(1,2,3-cd) PYRENE	193395
276.34	46721	BENZO (g,h,i) PERYLENE	191242
278.35	46722	DIBENZO(a,h) ANTHRACENE	53703
252.32	46723	PERYLENE	198550
252.32	46724	BENZO (e) PYRENE	192972
276.34	46725	ANTHANTHRENE	191264
300.36	46726	CORONENE	191071
192.26	46727	METHYL-ANTHRACENES	
192.26	46728	METHYL-PHENANTHRENES	
158.24	46729	C2-ALKYL-ANTHRACENES	
206.28	46730	C2-ALKYL-PHENANTHRENES	
247.36	46731	CYCLOPENTA-ANTHRACENES	
190.25	46732	CYCLOPENTA-PHENANTHRENES	
216.29	46733	METHYL-FLUORANTHENES	
226.28	46734	CYCLOPENTA(c,d)PYRENE	27208373
228.30	46735	BENZO(c)PHENANTHRENE	195197
242.33	46736	METHYL-BENZANTHRACENES	
242.33	46737	METHYL-BENZPHENANTHRENES	
242.33	46738	METHYL-CHRYSENES	
256.35	46739	C2-ALKYL-BENZANTHRACENES	
230.31	46740	C2-ALKYL-BENZOPHENANTHRENES	
256.34	46741	C2-ALKYL-CHRYSENES	
252.32	46742	BENZOPYRENES	
278.35	46743	DIBENZANTHRACENES	
278.36	46744	DIBENZPHENANTHRENES	
302.38	46745	DIBENZOPYRENES	

TABLE D-2. (Continued)

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MOLECULAR WEIGHT	SAROAD NUMBER	SPECIES NAME	CAS NUMBER
156.23	46746	C2-ALKYLNAPHTHALENE	
132.21	46747	METHYLINDANS	
152.28	46748	METHYLDECALINS	
144.22	46749	METHYLDIHYDRONAPHTHALENE	
146.23	46750	DIMETHYLINDANS	
130.19	46751	DIHYDRONAPTHALENE	
144.22	46752	DIMETHYLINDENE	
138.25	46753	DECALINS	91178
146.23	46754	ETHYLINDAN	
160.26	46755	TRIMETHYLINDAN	
168.32	90001	DODECENE	112414
128.25	90002	2,3,5-TRIMETHYLHEXANE	
128.26	90003	2,4 DIMETHYLHEPTANE	
128.26	90004	3,5 DIMETHYLHEPTANE	
128.26	90005	2,5 DIMETHYLHEPTANE	
128.26	90006	2,3 DIMETHYLHEPTANE	
84.16	90007	4-METHYL-1-PENTENE	691372
128.26	90008	2-METHYLOCTANE	
142.29	90009	2,4,5-TRIMETHYLHEPTANE	
106.16	90010	M-XYLENE AND P-XYLENE	
54.09	90011	METHYLALLENE	
112.21	90013	C-2-OCTENE	
140.27	90014	1-DECENE	8720509
128.26	90015	3-METHYLOCTANE	
128.26	90016	4-METHYLOCTANE	
127.25	90017	METHYLCYCLOOCTANE	
222.47	90019	C6H18O3SI3	
296.60	90020	C8H24O4SI4	
58.12	90021	METHYLPROPANE	
56.10	90022	METHYLPROPENE	
70.13	90023	METHYLBUTENE	
68.12	90024	METHYLBUTADIENE	
84.16	90025	METHYLPENTENES	
86.17	90026	METHYLPENTANE	
80.14	90027	METHYLCYCLOPENTADIENE	
100.20	90028	METHYLHEXANE	
98.18	90029	METHYLHEXENES	
226.45	90030	HEXADECANE	544763
240.46	90031	N-HEPTADECANE	629787
154.30	90032	1-UNDECENE	821954
138.25	90033	CYCLOPENTYLCYCLOPENTANE	
126.24	90034	T-2-NONENE	6434782

TABLE D-2. (Continued)

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MOLECULAR WEIGHT	SAROAD NUMBER	SPECIES NAME	CAS NUMBER
70.14	90035	N-PENTENE	25377724
68.12	90036	PENTYNE	
82.15	90037	HEXYNE	
112.22	90038	CIS-1,4 DIMETHYLCYCLOHEXANE	624293
96.17	90039	METHYLHEXADIENE	
100.20	90040	3,3 DIMETHYLPENTANE	562492
94.15	90041	METHYLCYCLOHEXADIENE	4313579
84.16	90042	T-3-HEXENE	13269528
114.19	90043	METHYLHEXANAL	
110.20	90044	METHYLHEPTYNE	
114.23	90045	METHYLHEPTANE	
96.17	90046	METHYLCYCLOHEXENE	
142.28	90047	METHYLNONANE	
156.32	90048	METHYLDECANES	
170.34	90049	METHYLUNDECANE	
136.24	90050	CAMPHENE	5794036
136.24	90051	MYRCENE	123353
136.24	90052	B-PHELLANDRENE	
136.24	90053	D-LIMONENE	5989275
66.10	90054	PENTENYNE	
154.29	90055	PENTYLCYCLOHEXANE	
84.16	90056	HEXENE	
98.18	90057	1-HEPTENE	592767
96.14	90058	HEXADIENAL	142836
110.17	90059	HEPTADIENAL	5910859
86.18	90060	DIMETHYLBUTANE	79298
84.16	90061	DIMETHYLBUTENE	
100.20	90062	DIMETHYLPENTANE	
98.19	90063	DIMETHYLPENTENE	
98.19	90064	DIMETHYLCYCLOPENTANE	
96.17	90065	DIMETHYLCYCLOPENTENES	
124.23	90066	NONADIENE	
114.23	90067	DIMETHYLHEXANES	
110.20	90068	DIMETHYLHEXADIENE	
140.26	90069	DIMETHYLETHYLCYCLOHEXANE	
142.28	90070	DIMETHYLOCTANES	
184.36	90071	DIMETHYLUNDECANE	
140.27	90072	METHYLPROPYLCYCLOHEXANES	
140.27	90073	METHYLISOPROPYLCYCLOHEXANE	
170.34	90074	DIMETHYLDECANE	
140.27	90075	ETHYLOCTENE	
156.31	90076	DIMETHYLNONANES	

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MOLECULAR WEIGHT	SAROAD NUMBER	SPECIES NAME	CAS NUMBER
142.29	90077	ETHYLOCTANE	
98.19	90078	ETHYLPENTENE	
96.17	90079	ETHYLCYCLOPENTENE	
112.21	90080	ETHYLMETHYLCYCLOPENTANE	
114.23	90081	ETHYLHEXANE	
128.26	90082	ETHYLMETHYLHEXANE	
126.24	90083	ETHYLMETHYLCYCLOHEXANES	
128.26	90084	ETHYLHEPTANE	
156.31	90085	ETHYLMETHYLOCTANE	
223.42	90086	ETHYLBICYCLOHEPTANE	
128.26	90087	ETHYLDIMETHYLPENTANE	
140.27	90089	ETHYLDIMETHYLCYCLOHEXANE	
154.29	90090	ETHYLPROPYLCYCLOHEXANES	
110.19	90091	TETRAMETHYLCYCLOBUTENE	
114.22	90092	TRIMETHYLPENTANE	
110.20	90093	TRIMETHYLPENTADIENE	
142.29	90094	TRIMETHYLHEPTANES	
126.24	90095	TRIMETHYLHEXENE	
156.31	90096	TRIMETHYLOCTANES	
184.36	90097	TRIMETHYLDECANE	
126.24	90098	TETRAMETHYLCYCLOPENTANE	
108.19	90099	OCTATRIENE	
126.24	90100	NONENE	
140.27	90101	BUTYLCYCLOHEXANE	1678939
184.36	90102	METHYLPROPYLNONANE	
68.13	90103	PENTADIENE	
128.26	90104	METHYLOCTANES	
124.33	90105	PROPENYLCYCLOHEXANE	
140.26	90106	METHYLNONENE	
154.29	90107	METHYLDECENE	
184.36	90108	METHYLDODECANE	
140.27	90109	PROPYLHEPTENES	
111.20	90110	DIETHYLMETHYLCYCLOHEXANES	
140.27	90111	ISOPROPYLMETHYLCYCLOHEXANE	
138.25	90112	DIMETHYLOCTYNE	
152.00	90113	PENTYLIDENECYCLOHEXANE	
168.32	90114	DIMETHYLBUTYLCYCLOHEXANE	
128.26	90115	TRIMETHYLHEXANES	
113.22	90116	ISOPROPYLCYCLOPENTANE	
136.24	90117	LIMONENE	5989275
225.20	90118	OCTAHYDROPENTALENE	
130.19	90119	METHYLINDENE	

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MOLECULAR WEIGHT	SAROAD NUMBER	SPECIES NAME	CAS NUMBER
126.24	90120	PROPYLCYCLOHEXANE	
142.22	90121	METHYLETHYLHEPTANE	
142.28	90122	TETRAMETHYLHEXANE	
168.32	90123	TRIMETHYLNONENE	
140.27	90124	DIMETHYLOCTENES	
296.59	90125	HENEICOSANE	629947
282.56	90126	EICOSANE	112958
268.53	90127	NONADECANE	
126.25	90128	ISOPROPYLCYCLOHEXANE	
172.35	90129	ETHYLDIMETHYLOCTANE	
204.36	90130	CARYOPHYLLENE	87445
128.26	98033	2,2,5-TRIMETHYLHEXANE	
84.16	98034	T-2-HEXENE	40504557
84.16	98035	C-2-HEXENE	592438
84.16	98040	2-METHYL-1-PENTENE	763291
98.19	98041	3-HEPTENE	
118.18	98044	INDANE	496117
112.22	98054	2,4,4-TRIMETHYL-1-PENTENE	107391
86.14	98056	ISOVALERALDEHYDE	590863
98.19	98057	ETHYLCYCLOPENTANE	1640897
112.16	98058	TRIMETHYLCYCLOPENTANE	
112.24	98059	DIMETHYLCYCLOHEXANE	
126.27	98060	TRIMETHYLCYCLOHEXANES	3073663
140.27	98062	DIETHYLCYCLOHEXANE	
154.30	98063	N-PENTYLCYCLOHEXANE	
126.24	98082	ETHYLHEPTENE	
182.35	98083	TRIMETHYLDECENE	
112.22	98090	METHYLHEPTENE	
128.26	98091	DIMETHYLHEPTANES	
88.15	98106	ETHYLISOPROPYL ETHER	
16.04	99101	C-1 COMPOUNDS	
28.55	99102	C-2 COMPOUNDS	
42.08	99103	C-3 COMPOUNDS	
57.08	99104	C-4 COMPOUNDS	
71.00	99105	C-5 COMPOUNDS	
79.12	99106	C-6 COMPOUNDS	
93.18	99107	C-7 COMPOUNDS	
112.00	99108	C-8 COMPOUNDS	
126.00	99109	C-9 COMPOUNDS	
140.00	99110	C-10 COMPOUNDS	
154.00	99111	C-11 COMPOUNDS	
168.00	99112	C-12 COMPOUNDS	

TABLE D-2. (Continued)

MOLECULAR WEIGHT	SAROAD NUMBER	SPECIES NAME	CAS NUMBER
182.00	99113	C-13 COMPOUNDS	
196.00	99114	C-14 COMPOUNDS	
210.00	99115	C-15 COMPOUNDS	
224.00	99116	C-16 COMPOUNDS	
238.00	99117	C-17 COMPOUNDS	
252.00	99118	C-18 COMPOUNDS	
266.00	99119	C-19 COMPOUNDS	
280.00	99120	C-20 COMPOUNDS	
294.00	99121	C-21 COMPOUNDS	
308.00	99122	C-22 COMPOUNDS	
322.00	99123	C-23 COMPOUNDS	
336.00	99124	C-24 COMPOUNDS	
350.00	99125	C-25 COMPOUNDS	
364.00	99126	C-26 COMPOUNDS	
378.00	99127	C-27 COMPOUNDS	
392.00	99128	C-28 COMPOUNDS	
406.00	99129	C-29 COMPOUNDS	
420.00	99130	C-30 COMPOUNDS	
434.00	99131	C-31 COMPOUNDS	
448.00	99132	C-32 COMPOUNDS	
462.00	99133	C-33 COMPOUNDS	
476.00	99134	C-34 COMPOUNDS	
490.00	99135	C-35 COMPOUNDS	
504.00	99136	C-36 COMPOUNDS	
518.00	99137	C-37 COMPOUNDS	
532.00	99138	C-38 COMPOUNDS	
546.00	99139	C-39 COMPOUNDS	
560.00	99140	C-40 COMPOUNDS	
574.00	99141	C-41 COMPOUNDS	
588.00	99142	C-42 COMPOUNDS	
602.00	99143	C-43 COMPOUNDS	
142.28	99908	2,3 DIMETHYLOCTANE	
167.31	99909	2,6 DIMETHYLOCTANE	
142.29	99910	2,4 DIMETHYLOCTANE	
142.29	99911	3,4 DIMETHYLOCTANE	
120.19	99912	1-METHYL-3-ETHYLBENZENE	
120.19	99913	1-METHYL-2-ETHYLBENZENE	
134.22	99915	ISOBUTYLBENZENE	538932
134.22	99916	1-METHYL-3N-PROPYLBENZENE	
134.22	99917	1-METHYL-3-ISOPROPYLBENZENE	
156.32	99918	2-METHYLDECANE	
32.04	99933	DENATURANT	

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MOLECULAR WEIGHT	SAROAD NUMBER	SPECIES NAME	CAS NUMBER
86.00	99999	UNIDENTIFIED	

APPENDIX E

CHEMICAL SPECIES CLASSIFICATION

APPENDIX E

CHEMICAL SPECIES CLASSIFICATION

This appendix contains two examples of chemical species classification schemes (Tables E-1 and E-2). Since there are several different schemes used based on specific modeling needs, chemical species classification data are not included in the profiles in the text.

TABLE E-1. HYDROCARBON SPECIES/CLASS ASSIGNMENTS FOR 1980 NAPAP INVENTORY VERSION 5.2

HYDROCARBON SPECIES	SAROAD CODE	5.2 CLASS
UNIDENTIFIED HYDROCARBONS	43000	09
ISOMERS OF HEXANE	43105	09
ISOMERS OF HEPTANE	43106	09
ISOMERS OF OCTANE	43107	09
ISOMERS OF NONANE	43108	09
ISOMERS OF DECANE	43109	09
ISOMERS OF UNDECANE	43110	09
ISOMERS OF TRIDECANE	43111	09
ISOMERS OF DODECANE	43112	09
ISOMERS OF TETRADECANE	43113	09
ISOMERS OF PENTADECANE	43114	09
C-7 CYCLOPARAFFINS	43115	09
C-8 CYCLOPARAFFINS	43116	09
C-9 CYCLOPARAFFINS	43117	09
MINERAL SPIRITS	43118	09
LACTOL SPIRITS	43119	09
ISOMERS OF BUTENE	43120	15
ISOMERS OF PENTENE	43121	15
ISOMERS OF PENTANE	43122	09
TERPENES	43123	15
METHANE	43201	01
ETHANE	43202	02
ETHYLENE	43203	10
PROPANE	43204	03
PROPYLENE	43205	11
ACETYLENE	43206	09
CYCLOPROPANE	43207	09
PROPADIENE	43208	15
METHYLACETYLENE	43209	15
N-BUTANE	43212	04
BUTENE	43213	15
ISOBUTANE	43214	05
ISOBUTYLENE	43215	13
1,3-BUTADIENE	43218	15
ETHYLACETYLENE	43219	15
N-PENTANE	43220	07
ISOPENTANE	43221	08
3-METHYL-1-BUTENE	43223	15
1-PENTENE	43224	15
CIS, 2-PENTENE	43227	15
2-METHYL,2-BUTENE	43228	15
N-HEXANE	43231	09
N-HEPTANE	43232	09
N-OCTANE	43233	09
N-NONANE	43235	09
N-DECANE	43238	09
N-UNDECANE	43241	09
CYCLOPENTANE	43242	09
1-HEXENE	43245	15
2,4, DIMETHYL PENTANE	43247	09

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TABLE E-1. (Continued)

HYDROCARBON SPECIES	SAROAD CODE	5.2 CLASS
CYCLOHEXANE	43248	09
N-DODECANE	43255	09
N-TRIDECANE	43258	09
N-TETRADECANE	43259	09
N-PENTADECANE	43260	09
METHYLCYCLOHEXANE	43261	09
METHYLCYCLOPENTANE	43262	09
1-HEPTENE	43264	15
1-OCTENE	43265	15
3,3 DIMETHYL, 1-PENTENE	43268	15
N-HEXADECANE	43281	09
N-HEPTADECANE	43282	09
N-OCTADECANE	43283	09
N-NONADECANE	43284	09
N-EICOSANE	43285	09
N-HENEICOSANE	43286	09
N-DOCOSANE	43287	09
C8 OLEFIN UNK	43290	15
METHYL ALCOHOL	43301	09
ETHYL ALCOHOL	43302	09
N-PROPYL ALCOHOL	43303	09
ISOPROPYL ALCOHOL	43304	09
N-BUTYL ALCOHOL	43305	09
ISOBUTYL ALCOHOL	43306	09
BUTYL CELLOSOLVE	43308	09
TERT-BUTYL ALCOHOL	43309	09
METHYL CELLOSOLVE	43310	09
CELLOSOLVE	43311	09
DIACETONE ALCOHOL	43320	26
ETHYL ETHER	43351	09
GLYCOL ETHER	43367	09
GLYCOL	43368	09
PROPYLENE GLYCOL	43369	09
ETHYLENE GLYCOL	43370	09
TETRAHYDROFURAN	43390	09
ACETIC ACID	43404	28
METHYL ACETATE	43432	29
ETHYL ACETATE	43433	29
PROPYL ACETATE	43434	29
N-BUTYL ACETATE	43435	29
ETHYL ACRYLATE	43438	15
CELLOSOLVE ACETATE	43443	09
ISOPROPYL ACETATE	43444	09
METHYL AMYL ACETATE	43445	09
ISOBUTYL ACETATE	43446	09
DIMETHYLFORMAMIDE	43450	24
ISOBUTYL ISOBUTYRATE	43451	09
2-ETHOXYETHYL ACETATE	43452	09
FORMALDEHYDE	43502	21
ACETALDEHYDE	43503	22

TABLE E-1. (Continued)

HYDROCARBON SPECIES	SAROAD CODE	5.2 CLASS
BUTYRALDEHYDE	43510	24
ALDEHYDE	43513	24
ACETONE	43551	25
METHYL ETHYL KETONE	43552	26
METHYL N-BUTYL KETONE	43559	26
METHYL ISOBUTYL KETONE	43560	26
CYCLOHEXANONE	43561	26
ETHYLENE OXIDE	43601	09
PROPYLENE OXIDE	43602	09
ACETONITRILE	43702	15
ACRYLONITRILE	43704	15
METHYLAMINE	43720	09
ETHYLAMINE	43721	09
TRIMETHYLAMINE	43740	09
METHYL CHLORIDE	43801	09
DICHLOROMETHANE	43802	09
CHLOROFORM	43803	09
CARBON TETRABROMIDE	43807	09
TRICHLORO-FLUOROMETHANE	43811	09
ETHYL CHLORIDE	43812	09
1,1,DICHLOROETHANE	43813	09
1,1,1,-TRICHLOROETHANE	43814	09
ETHYLENE DICHLORIDE	43815	09
PERCHLOROETHYLENE	43817	15
METHYLENE BROMIDE	43819	09
1,1,2-TRICHLOROETHANE	43820	09
TRICHLOROTRIFLUOROETHANE	43821	09
TRIMETHYLFLUOROSILANE	43822	09
DICHLORODIFLUOROMETHANE	43823	09
TRICHLOROETHYLENE	43824	15
VINYL CHLORIDE	43860	15
PRIM. & SEC-ALKYL BENZENES	45100	20
NAPHTHA	45101	09
ISOMERS OF XYLENE	45102	18
DIMETHYLETHYLBENZENE	45103	20
ISOMERS OF ETHYLTOLUENE	45104	20
ISOMERS OF BUTYLBENZENE	45105	20
ISOMERS OF DIETHYLBENZENE	45106	20
ISOMERS OF TRIMETHYLBENZENE	45107	20
ISOMERS OF PROPYLBENZENE	45108	20
BENZENE	45201	16
TOLUENE	45202	17
ETHYLBENZENE	45203	19
ORTHO XYLENE	45204	18
1,3 DIMETHYLBENZENE	45205	18
1,3,5-TRIMETHYLBENZENE	45207	20
M-ETHYLTOLUENE	45212	20
N-BUTYLBENZENE	45214	20
TERT-BUTYLBENZENE	45215	20
SEC-BUTYLBENZENE	45216	20

TABLE E-1. (Continued)

HYDROCARBON SPECIES	SAROAD CODE	5.2 CLASS
STYRENE	45220	20
A-METHYLSTYRENE	45221	20
1,2,3-TRIMETHYLBENZENE	45225	20
ISOMERS OF TRIMETHYLBENZENE	45230	20
TETRAMETHYLBENZENE	45232	20
TRI/TETRAALKYL BENZENE	45233	20
PHENOLS	45300	20
XYLENE BASE ACIDS	45401	29
CHLOROBENZENE	45801	20
1,4 DIOXANE	46201	09

REACTIVITY CLASSES FOR 1980 NAPAP INVENTORY VERSION 5.2

Class Number	Class Name	Class SAROAD Code
01	METHANE	43201
02	ETHANE	43202
03	PROPANE	43204
04	N-BUTANE	43212
05	ISO-BUTANE	43214
06	2,3-DIMETHYLBUTANE	43244
07	PENTANE	43220
08	ISO-PENTANE	43221
09	OTHER ALKANES	43299
10	ETHYLENE	43203
11	PROPYLENE	43205
12	Not Used	-
13	ISO-BUTENE	43215
14	TRANS-2-BUTENE	43216
15	OTHER ALKENES	43298
16	BENZENE	45201
17	TOLUENE	45202
18	XYLENES	45102
19	ETHYL BENZENES	45203
20	OTHER AROMATICS	45999
21	FORMALDEHYDE	43502
22	ACETALDEHYDE	43503
23	PROPIONALDEHYDE	43504
24	OTHER ALDEHYDES	43599
25	ACETONE	43551
26	OTHER KETONES	43598
27	FORMIC ACID	43403
28	ACETIC ACID	43404
29	OTHER ORGANIC ACIDS	43499
30	Not Used	-

TABLE E-2. HYDROCARBON SPECIES/CLASS ASSIGNMENTS, 1980
NAPAP EMISSIONS INVENTORY VERSION 5.3

HYDROCARBON SPECIES	SAROAD CODE	5.3 CLASS: 1	5.3 CARBON NUMBER/CLASS ASSIGNMENTS 2	3	4	5	6	7	8	9	10
UNIDENTIFIED HYDROCARBONS	43000		2						3		
ISOMERS OF HEXANE	43105		6								
ISOMERS OF HEPTANE	43106		7								
ISOMERS OF OCTANE	43107		8								
ISOMERS OF NONANE	43108		9								
ISOMERS OF DECANE	43109		10								
ISOMERS OF UNDECANE	43110		11								
ISOMERS OF TRIDECANE	43111		13								
ISOMERS OF DODECANE	43112		12								
ISOMERS OF TETRADECANE	43113		14								
ISOMERS OF PENTADECANE	43114		15								
C-7 CYCLOPARAFFINS	43115		7								
C-8 CYCLOPARAFFINS	43116		8								
C-9 CYCLOPARAFFINS	43117		9								
MINERAL SPIRITS	43118		6				1				
LACTOL SPIRITS	43119		8								
ISOMERS OF BUTENE	43120						2				
ISOMERS OF PENTENE	43121		1				2				
ISOMERS OF PENTANE	43122		5								
TERPENES	43123	1	8								
METHANE	43201		0.01								0.99
ETHANE	43202		0.4						1.6		
ETHYLENE	43203							1			
PROPANE	43204		1.5						1.5		
PROPYLENE	43205	1	1								
ACETYLENE	43206		1						1		
CYCLOPROPANE	43207		3								
PROPADIENE	43208					1	1				
METHYLACETYLENE	43209		1.5						1.5		
N-BUTANE	43212		4								
BUTENE	43213	1	2								
ISOBUTANE	43214		4								
ISOBUTYLENE	43215		1			1	1				
1,3-BUTADIENE	43218	1				2					
ETHYLACETYLENE	43219		4								
N-PENTANE	43220		5								
ISOPENTANE	43221		5								
3-METHYL-1-BUTENE	43223	1	3								
1-PENTENE	43224	1	3								
CIS, 2-PENTENE	43227		1				2				
2-METHYL,2-BUTENE	43228		3				1				
N-HEXANE	43231		6								
N-HEPTANE	43232		7								
N-OCTANE	43233		8								
N-NONANE	43235		9								
N-DECANE	43238		10								
N-UNDECANE	43241		11								
CYCLOPENTANE	43242		5								
1-HEXENE	43245	1	4								
2,4, DIMETHYL PENTANE	43247		7								

TABLE E-2. (Continued)

HYDROCARBON SPECIES	SAROAD CODE	5.3 CLASS: 1	2	3	4	5	6	7	8	9	10
		5.3 CARBON NUMBER/CLASS ASSIGNMENTS									
CYCLOHEXANE	43248		6								
N-DODECANE	43255		12								
N-TRIDECANE	43258		13								
N-TETRADECANE	43259		14								
N-PENTADECANE	43260		15								
METHYLCYCLOHEXANE	43261		7								
METHYLCYCLOPENTANE	43262		6								
1-HEPTENE	43264	1	5								
1-OCTENE	43265	1	6								
3,3 DIMETHYL, 1-PENTENE	43268		5								
N-HEXADECANE	43281		16								
N-HEPTADECANE	43282		17								
N-OCTADECANE	43283		18								
N-NONADECANE	43284		19								
N-EICOSANE	43285		20								
N-HENEICOSANE	43286		21								
N-DOCOSANE	43287		22								
C8 OLEFIN UNK	43290	1	6								
METHYL ALCOHOL	43301		1								
ETHYL ALCOHOL	43302		2								
N-PROPYL ALCOHOL	43303		3								
ISOPROPYL ALCOHOL	43304		3								
N-BUTYL ALCOHOL	43305		2				1				
ISOBUTYL ALCOHOL	43306		4								
BUTYL CELLOSOLVE	43308		4				1				
TERT-BUTYL ALCOHOL	43309								4		
METHYL CELLOSOLVE	43310		1				1				
CELLOSOLVE	43311		2				1				
DIACETONE ALCOHOL	43320		4				1				
ETHYL ETHER	43351		2				1				
GLYCOL ETHER	43367		2								
GLYCOL	43368		2								
PROPYLENE GLYCOL	43369		3								
ETHYLENE GLYCOL	43370		2								
TETRAHYDROFURAN	43390		3			1					
ACETIC ACID	43404		1						1		
METHYL ACETATE	43432								3		
ETHYL ACETATE	43433		3						1		
PROPYL ACETATE	43434		4						1		
N-BUTYL ACETATE	43435		5						1		
ETHYL ACRYLATE	43438		1				2				
CELLOSOLVE ACETATE	43443		3				1		1		
ISOPROPYL ACETATE	43444		5								
METHYL AMYL ACETATE	43445		8								
ISOBUTYL ACETATE	43446		6								
DIMETHYLFORMAMIDE	43450								3		
ISOBUTYL ISOBUTYRATE	43451		6				1				
2-ETHOXYETHYL ACETATE	43452		4				1				
FORMALDEHYDE	43502					1					
ACETALDEHYDE	43503						1				

TABLE E-2. (Continued)

HYDROCARBON SPECIES	SAROAD	5.3	5.3 CARBON NUMBER/CLASS ASSIGNMENTS								
	CODE	CLASS: 1	2	3	4	5	6	7	8	9	10
BUTYRALDEHYDE	43510		2				1				
ALDEHYDE	43513		6				1				
ACETONE	43551		3								
METHYL ETHYL KETONE	43552		4								
METHYL N-BUTYL KETONE	43559		6								
METHYL ISOBUTYL KETONE	43560		6								
CYCLOHEXANONE	43561		7								
ETHYLENE OXIDE	43601		1						1		
PROPYLENE OXIDE	43602		2						1		
ACETONITRILE	43702		1						1		
ACRYLONITRILE	43704	1	1								
METHYLAMINE	43720								1		
ETHYLAMINE	43721		1						1		
TRIMETHYLAMINE	43740		3								
METHYL CHLORIDE	43801								1		
DICHLOROMETHANE	43802								1		
CHLOROFORM	43803								1		
CARBON TETRABROMIDE	43807								1		
TRICHLORO-FLUOROMETHANE	43811								1		
ETHYL CHLORIDE	43812								2		
1,1,DICHLOROETHANE	43813								2		
1,1,1,-TRICHLOROETHANE	43814								2		
ETHYLENE DICHLORIDE	43815							1			
PERCHLOROETHYLENE	43817								2		
METHYLENE BROMIDE	43819								1		
1,1,2-TRICHLOROETHANE	43820								2		
TRICHLOROTRIFLUOROETHANE	43821								2		
TRIMETHYLFLUOROSILANE	43822								3		
DICHLORODIFLUOROMETHANE	43823								1		
TRICHLOROETHYLENE	43824							1			
VINYL CHLORIDE	43860							1			
PRIM. & SEC-ALKYL BENZENES	45100		3		1						
NAPHTHA	45101		8								
ISOMERS OF XYLENE	45102				1						
DIMETHYLETHYLBENZENE	45103		2		1						
ISOMERS OF ETHYLTOLUENE	45104		1		1						
ISOMERS OF BUTYLBENZENE	45105		3	1							
ISOMERS OF DIETHYLBENZENE	45106		2		1						
ISOMERS OF TRIMETHYLBENZENE	45107		1		1						
ISOMERS OF PROPYLBENZENE	45108		2	1							
BENZENE	45201		1						5		
TOLUENE	45202			1							
ETHYLBENZENE	45203		1	1							
ORTHO XYLENE	45204				1						
1,3 DIMETHYLBENZENE	45205				1						
1,3,5-TRIMETHYLBENZENE	45207		1		1						
M-ETHYLTOLUENE	45212		1		1						
N-BUTYLBENZENE	45214										
TERT-BUTYLBENZENE	45215		1	1					3		
SEC-BUTYLBENZENE	45216		3	1							

TABLE E-2. (Continued)

HYDROCARBON SPECIES	SAROAD CODE	5.3 CLASS: 1	2	3	4	5	6	7	8	9	10
STYRENE	45220			1		1					
A-METHYLSTYRENE	45221		1	1		1					
1,2,3-TRIMETHYLBENZENE	45225		1		1						
ISOMERS OF TRIMETHYLBENZENE	45230		1		1						
TETRAMETHYLBENZENE	45232		2		1						
TRI/TETRAALKYL BENZENE	45233		3		1						
PHENOLS	45300						1		4		
XYLENE BASE ACIDS	45401				1						
CHLOROBENZENE	45801		5						1		
1,4 DIOXANE	46201	1					1				

REACTIVITY CLASSES FOR 1980 NAPAP INVENTORY VERSION 5.3

Class Number	Class Name	Class SAROAD Code
01	OLEFINS	43298
02	PARAFFINS	43199
03	TOLUENE	45202
04	XYLENE	45102
05	FORMALDEHYDE	43502
06	OTHER ALDEHYDES	43511
07	ETHYLENE	43203
08	NON-REACTIVES	43899
09	ISOPRENE	43243
10	METHANE	43201
11-30	Not Used	-

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*The SAROAD codes listed here are different for some species from the codes used in this document. Refer to Section 2.1 for the SAROAD codes used in this document.

APPENDIX F

DATA FILE DESCRIPTION

APPENDIX F
DATA FILE DESCRIPTION

The VOC Speciation Data Base consists of six working files. The content of each file is as follows:

File	Content
V_ASSIGN	SCC number Profile number Notation of whether SCC assignment is original or a surrogate Notation of whether the profile is based on test data SCC assignment data quality rating
SCC_DATA	SCC number Primary SCC name Secondary SCC name Tertiary SCC name Quaternary SCC name Area source code description Emission factor units Total suspended particles emission factor Volatile organic compounds emission factor
V_PROFIL	Profile number SAROAD number of each pollutant specie Molecular weight of each pollutant specie Identification of peaks for coeluting species Logical flags to designate missing data in all particle size ranges Logical flag to designate status of profile Calendar date profile was designated current
V_SPECIE	Pollutant species name Pollutant species SAROAD number Pollutant species CAS number Molecular weight of each pollutant specie
V_FTNOTE	Profile number Footnote indicators Profile footnote

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File	Content
V_COMMON	Profile number Profile name Profile data quality Profile reference(s) Comments describing the profile Control device Logical flag to designate profile status Calendar date profile was designated current

APPENDIX G

VOC SPECIATION TEST PROGRAM

APPENDIX G
VOC SPECIATION TEST PROGRAM

This appendix describes the VOC speciation testing efforts conducted as part of the overall speciation program to develop original speciated data to characterize high priority emission sources.

G.1 SUMMARY

Source categories where the VOC impacts are the most significant were selected for sampling: gasoline marketed, degreasing, drycleaning, autobody repair, and graphic arts. Due to resource limitations, emphasis was placed on area type emission sources which would not require ambient or stack sampling. The selection of specific sites for sampling within each category simply consisted of identifying major users/producers for each category. Samples were collected in a number of ways. Some of the samples were obtained from the producers through mail. In some cases, they were purchased from retail outlets. In other cases, they were obtained directly from the users.

Sample preparation involved development of proportions for making composite samples representative of a given category, from individual samples collected from each category. This was based primarily on data gathered through literature search, review of vendor literature, and vendor and trade association contacts. Composite samples from each category were analyzed using two analytical procedures. These procedures were similar to SW-846 Method 3810 "Headspace Method" and SW-846 Method 8270 "Gas Chromatography/Mass Spectrometry for Semi-Volatile Organics." All analytical determinations were performed using a combination of capillary gas chromatography with quadrupole mass spectrometry.

Accurate quantitative determinations were made for compounds included in the calibrations. In addition to these compounds, complete qualitative analysis was performed for all samples using a computerized library search and a skilled interpreter of mass spectral data. In order to determine the relative weight percentages of compounds in a given sample, the values

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calculated accurately were integrated with the semi-quantitative values based on the qualitative analysis described above. The total organic content of the samples were then summed and each component was expressed as a percentage of the whole, consistent with the current VOC species profile format. A threshold level of 0.01 percent was used to include a compound in a profile.

The following sections discuss source category and site selection, sampling and analytical procedures, results, and internal quality assurance/quality control procedures in detail.

G.2 SELECTION OF SOURCE CATEGORIES AND SAMPLING SITES

G.2.1 Source Category Selection

To determine the source categories where the new and/or improved profiles would have significant impacts, the following were reviewed:[1,2]

- 1980 VOC Species Data Manual,
- 1980 National and Precipitation Assessment Program (NAPAP) Emissions Inventory, and
- New profiles developed from literature review.

Based on this review, the following source categories were selected for this sampling program:

- gasoline marketed,
- degreasing,
- drycleaning,
- autobody repair, and
- graphic arts-printing.

Table G-1 presents the Source Classification Codes (SCC's) and the applicable National Emissions Data System (NEDS) area source codes for these source categories. As shown in Table G-1, sampling in these categories would result in speciation of approximately 2,232,000 tons/year of VOC emissions; this is equivalent to about 10 percent of total national VOC emissions.[3] Due to time and budget limitations, emphasis was placed on area type emission sources which would not require ambient or stack sampling.

G.2.2 Selection of Sampling Sites

To characterize the five source categories selected for sampling, samples from major users/producers in each category were collected and the composition of potential VOC emissions associated with these products were characterized by laboratory methods. It was assumed that composition of the volatile portion of a product reflects the composition of VOC emissions from operations where the product is used.

Sample acquisition involved clearly defining each of the five source categories in terms of the products (i.e., types of solvents) used. Available literature was consulted to determine the major users/producers and their market share within the five categories. The major producers were solicited for representative samples. An alternate approach for certain categories was to purchase some of the products at local retailers once the products of interest have been specified.

In order to select sites for the gasoline marketed source category, the leading five oil companies in 1984 sales were identified from the "Basic Petroleum Data Book."[4] The five oil companies and corresponding local service stations where samples were collected included the following:

1. Chevron (Gulf)
2. Standard of Indiana (Amoco)
3. Texaco
4. Shell
5. Exxon

The 1984 sales data presented for Chevron Corporation reflected the acquisition of Gulf Corporation. No local Chevron stations could be found, so only Gulf service stations were selected for collecting samples.

Degreasing and drycleaning operations use similar solvents and the producers of solvents used in these operations are often the same for each industry. The main type of solvent used in both industries that is not a pure

TABLE G-1. SOURCE CATEGORIES SELECTED FOR SAMPLING[a]

SCC/Area Source Code	Description	National VOC Emissions (tons/yr)	% of National VOC Emissions
54	Gasoline marketed	966,000	4.2
78,4-01-002	Degreasing	607,000	2.6
79	Drycleaning	300,000	1.3
83	Autobody repair	183,000	0.8
80	Graphic arts-printing	176,000	0.8
		2,232,000	9.7

[a] Source: Reference 3.

compound is mineral spirits. Since evaporative emissions from a pure solvent can be accurately assumed to be the compound comprising the solvent, mineral spirits was the only solvent type which was investigated in this study. Major producers of mineral spirits were identified through contacts with trade associations and vendor literature review. As a result of these contacts, one company provided a sample of their main mineral spirit product and another company sent five of their mineral spirit products through the mail in 4-ounce sample bottles with minimal headspace.

The main producers of automotive aftermarket paint (i.e., paint applied after the car leaves the factory) were identified by review of vendor literature and by talking with sales representatives. The main types of paint used presently within the industry were identified along with their tradenames for each main producer. Once the tradenames of the samples were established, local paint distributors were contacted to see if they carried the product, along with the compatible thinner. Paint distributors of DuPont, Sherwin-Williams, and PPG (Ditzler) paints were selected. The types of paints and thinners selected are as follows:

- DuPont - "Centari," and "Lucite"
- Sherwin-Williams - "Acrylyd," "Kem Transport," and Acrylic Enamel
- PPG (Ditzler) - "Ditzco"

For the graphic arts industry, the main industry subcategories identified from Reference 5 were:

1. Rotogravure
2. Lithography
3. Letter Press
4. Flexography

The main types of printed products (i.e., newspaper, magazine, etc.) made with each of these printing processes were identified from the Printing Ink Handbook.[6] Local printers which use these processes were contacted and samples were obtained by mail or arrangements were made to pick up the ink samples.

G.3 SAMPLING AND ANALYTICAL PROCEDURES

G.3.1 Sampling Procedures

Table G-2 presents an overview of the sample collection efforts including information on the number and type of samples collected, the number of participating companies, and how the samples were actually obtained.

When samples were obtained on a first hand basis by visiting sites, an attempt was made to minimize VOC loss. The time the sample was exposed to the open air was reduced as much as possible. Before taking gasoline samples, approximately one gallon of gasoline was dispensed to purge the delivery hose. This gasoline was not desirable because it was exposed to ambient summer temperatures and may have lost the more volatile components. Gasoline samples were collected in clean vials obtained from the Radian laboratory. As soon as each gasoline sample was sealed and labeled, it was placed in a plastic bag and put in an ice chest. The samples were then transported to the 4°C walk-in freezer at the Radian laboratory.

One sample for the degreasing and drycleaning categories was obtained directly from the producer. It was stored along with five other solvents received by mail in the walk-in freezer.

Acquisition of autobody repair paint was a simple matter of purchasing the desired paint and its compatible/recommended thinner at local paint distributors. The paint which was in metal cans or plastic bottles, was then transported to the walk-in freezer.

Most of the printing inks for the graphic arts category were obtained by site visits. One lithographic ink sample was obtained by mail and taken to the walk-in freezer. Letterpress, flexographic, and gravure ink samples

TABLE G-2. VOC SAMPLE COLLECTION

Source Category	Sample Acquisition	Number of Samples	Number of Participating Companies	Types of Samples	Date
Gasoline Marketed	Site Visit	14	5	Leaded, Unleaded, and Unleaded Premium Gasoline	7/14/87
Degreasing	Mail, Site Visit	6	2	Mineral Spirits	7/16/87, 7/17/87
Drycleaning	Mail, Site Visit	5	2	Mineral Spirits	7/16/87, 7/17/87
Autobody Repair	Site Visit	12	3	Acrylic Enamel, Acrylic Lacquer, and Alkyd Enamel Paints and Thinners	7/17/87
Graphic Arts	Site Visit, Mail	5	4	Flexographic, Lithographic, Gravure, and Letterpress Printing Inks	7/16/87

were obtained by drawing off ink samples from the actual printing processes. An attempt was made to minimize the headspace in the sample, but this could not be monitored carefully because only authorized personnel were allowed near the moving machinery to extract the sample. In any case, the headspace was small. Since inks typically contain compounds with high boiling points (i.e., low volatility), this would have a negligible impact on the results. The samples were sealed, labeled and stored in an ice chest until taken to the laboratory.

G.3.2 Compositing Procedures

After all the samples for a given source category were collected, a composite sample for each source category was developed in the laboratory. The actual number of samples used to develop the composite sample varied between categories. At least five samples from each category were included in each composite.

Composite samples were developed according to the type of data available for a given category. If product usage data were available, then the individual samples were mixed in proportion to the usage data. For example, if 2,000 tons/year of solvent X and 1,000 tons/year of solvent Y were used in a source category, then the composite sample consisted of solvent X and solvent Y combined in a two-to-one ratio. If emissions data were available for a source category, then the composite sample was developed in proportion to the emissions data. If usage or emissions data were insufficient, the individual samples for a particular category were combined in equivalent proportions.

The specific compositing procedure used for each category is described in detail below. In each case, the composite was prepared in a walk-in refrigerator at 4°C immediately prior to analysis.

G.3.2.1 Gasoline Marketed Composite. In developing the composite for this category, 1984 sales data for the leading five oil companies was used to determine the percent contribution to U.S. sales.[4] Thirty-eight percent of the U.S. gasoline market is characterized by this composite sample. Breakdown of company sales figures by gasoline type (i.e., leaded, unleaded, etc.) was based on average data for 1985 and 1986.[7] Amoco no longer carries leaded gasoline, so the percent contribution to Amoco sales was based only on unleaded regular and unleaded premium gasoline.

The assumptions used to develop this composite included the following: (1) the company contributions to the market are based on 1984 sales data; (2) sample based on Chevron and Gulf sales is represented only by Gulf gasoline; (3) average of 1985 and 1986 nationwide production data was used to estimate the percentage of gasoline types per company; (4) gasoline was only sampled in the Research Triangle area (North Carolina); (5) since samples were collected in July, this composite does not reflect winter-blend gasolines.

The proportions in Table G-3 were used to make up 100 mL of the composite. Of this volume, 30 mL (22.6 g) was put into a 40 mL septum-top VOA vial and put into a freezer until analysis.

G.3.2.2 Degreasing Composite. Data of sufficient quality were not available which could be used to composite the mineral spirit samples. All six mineral spirit samples were composited by volume in equal amounts as shown in Table G-3. The final volume of the degreasing composite was 120 mL. Of this volume, 30 mL (23.1 g) was measured into a 40 mL septum capped VOA vial and stored in a freezer until analysis.

G.3.2.3 Drycleaning Composite. Five of the six mineral spirit samples were composited by volume in equal proportions since no data were available to permit compositing by varying amounts (see Table G-3). The sixth sample was not included because of its high volatility. Most mineral spirits used by small independent dry cleaners have a minimum flash point of around 100°F. The sixth sample had a flash point of less than 20°F, which was not typical of petroleum drycleaning solvents and, therefore, was not included in the analysis.

The final volume of the drycleaning composite was 100 mL. Of this volume, 30 mL (23.3 g) was measured into a septum capped 40 mL VOA vial and stored in a freezer until analysis. A duplicate sample was prepared by

TABLE G-3. COMPOSITE SAMPLE DEVELOPMENT

Sample Identifier	Sample Description	Percentage (by Volume) Contribution to Composite
GASOLINE MARKETED		
GM-0714-01	Gulf leaded	7
GM-0714-02	Gulf unleaded	14
GM-0714-03	Gulf unleaded premium	5
GM-0714-04	Amoco unleaded	14
GM-0714-05	Amoco unleaded premium	5
GM-0714-06	Texaco leaded	5
GM-0714-07	Texaco unleaded	10
GM-0714-08	Texaco unleaded premium	4
GM-0714-09	Shell leaded	5
GM-0714-10	Shell unleaded	10
GM-0714-11	Shell unleaded premium	3
GM-0714-12	Exxon leaded	5
GM-0714-13	Exxon unleaded	10
GM-0714-14	Exxon unleaded premium	3
		100
DEGREASING		
DD-0716-01	Mineral spirits	16.7
DD-0717-01	Mineral spirits	16.7
DD-0717-02	Mineral spirits	16.7
DD-0717-03	Mineral spirits	16.7
DD-0717-04	Mineral spirits	16.7
DD-0717-05	Mineral spirits	16.7
		100

TABLE G-3. COMPOSITE SAMPLE DEVELOPMENT (Continued)

Sample Identifier	Sample Description	Percentage (by Volume) Contribution to Composite
DRYCLEANING		
DD-0716-01	Mineral spirits	20
DD-0717-01	Mineral spirits	20
DD-0717-03	Mineral spirits	20
DD-0717-04	Mineral spirits	20
DD-0717-05	Mineral spirits	20
		100
AUTO BODY REPAIR		
ABR-0717-01	DuPont "Centari" acrylic enamel	25
ABR-0717-02	DuPont "Lucite" acrylic lacquer	23
ABR-0717-03	Sherwin-Williams acrylic enamel	19
ABR-0717-04	Sherwin-Williams "Acrylyd" acrylic lacquer	17
ABR-0717-05	Sherwin-Williams "Kem Transport" alkyd enamel	10
ABR-0717-06	PPG/Ditzler "Ditzco" alkyd enamel	6
		100

TABLE G-3. COMPOSITE SAMPLE DEVELOPMENT (Continued)

Sample Identifier	Sample Description	Percentage (by Volume) Contribution to Composite
GRAPHIC ARTS		
GA-0716-01	Flexographic (yellow)	12.9*
GA-0716-02	Lithographic	28.5*
GA-0716-03A	Gravure (red)	20.3*
GA-0716-03B	Gravure (clear)	20.5*
GA-0716-04	Letterpress (black)	17.8*
		100

*Based on weight.

measuring a second 30 mL volume of the composite (22.8 g) into a 40 mL septum capped VOA vial. The duplicate sample was also stored in a freezer until analysis.

G.3.2.4 Autobody Repair Composite. The composite for this category was developed using a method similar to the one used for the gasoline marketed category. A list of main automotive aftermarket paint producers with their percent contribution in sales to the market was used to develop the autobody repair composite (see Reference 8). This information was coupled with information on main autobody paint types and their percent contribution to the company-wide paint sales for each company to develop the criteria for compositing. By obtaining two samples of DuPont paint, three samples of Sherwin-Williams paint, and one sample of Ditzler paint, 42 percent of the market was characterized. The following assumptions were made in the development of the composite: (1) paints all cost roughly the same to remain competitive in the market, thus sales percentages were assumed to be the same as production percentages; and (2) each company had the same percent contribution to sales for each type of paint.

Paints were combined with the thinners/reducers according to the instructions provided on the paint cans resulting in actual paint samples. Approximately 1:1.25 to 1:1.5 proportions of paint and thinner were used for each sample. Each paint sample of a certain type and company origin was then combined according to the scheme presented in Table G-3. The total volume of this composite was 100 mL, of which 30 mL (27.3 g) was measured into a 40 mL VOA vial and stored in a freezer until analysis.

Samples of polyurethane and acrylic urethane paints were not considered because of the potential problems with mixing these paints into the composite. Paints of this type require an activator to make the paint harden. This possibly could form lumps of reacted paint in the composite. In addition, the reactivity of all components with other paint mixtures was unknown.

G.3.2.5 Graphic Arts Composite. Compositing of graphic arts inks was based on 1978 nationwide mass emissions.5 Since the composite was based on mass emissions, the individual ink samples were composited by weight percent according to the proportions shown in Table G-3. Two gravure samples were mixed in equal amounts to obtain one gravure sample. For this category, only one company was sampled per each subcategory (flexography, gravure, letterpress, and lithography).

The total composite amount was 101.0 g. Of this amount, 21.1 g was put into a 40 mL septum capped VOA vial and stored in a freezer until analysis.

G.3.3 Analytical Procedures

G.3.3.1 Headspace Analysis. All of the composite samples were subjected to analysis of the headspace of the VOA vials. The headspace of the gasoline sample was sampled at room temperature. All of the other composites were allowed to equilibrate in an oven at 90oC for one hour before the headspace was removed for analysis.

The combination of capillary gas chromatography (DB-5 fused silica capillary column, 30 m, 0.32 mm ID, 1.0 microns film thickness) with quadrupole mass spectrometry was used to perform all analytical determinations. For the headspace analyses, a coil of the column was frozen with liquid nitrogen to allow the introduction of the gaseous materials from the VOA vial headspace by a direct injection using a gas-tight syringe. The optimum sample size was determined as 1 ul. The temperature program used consisted of an initial temperature of -50oC for 1 minute and an increase of 6oC per minute up to a final temperature of 250oC. The analytical system was tuned using perfluorotributylamine (FC-43), according to the manufacturer's specifications. An accurate three-point calibration was performed using the Air Toxics quantitation standards and surrogates (see Table G-4).

The calibration samples were prepared as a mixture of compounds in a static dilution bulb from which gaseous injections were made to calibrate the analytical system.

G.3.3.2 Semi-Volatile Analysis. A weighed quantity of the composite was put into a carbon disulfide solution and an analysis of the organic contents of the carbon disulfide solution was performed using GC/MS in order to assess whether compounds were detected under these conditions when those same compounds could not be observed in the headspace analysis. Since carbon disulfide is not a polar compound, it was judged to be an optimal agent for

TABLE G-4. CALIBRATION COMPOUNDS FOR HEADSPACE ANALYSIS

Trichlorofluoromethane
1,1-Dichloroethene
Methylene chloride
trans-1,2-Dichloroethene
1,1-Dichloroethane
Chloroform
1,1,1-Trichloroethane
Carbon tetrachloride
Benzene
1,2-Dichloroethane
Trichloroethene
1,2-Dichloropropane
Bromodichloromethane
trans-1,3-Dichloropropene
Toluene
cis-1,3-Dichloropropene
1,1,2-Trichloroethane
Chloromethane
Bromomethane
Tetrachloroethene
Dibromochloromethane
Chlorobenzene
Ethylbenzene
m-, p-Xylene
o-Xylene
Bromoform
1,1,2,2-Tetrachloroethane
m-Dichlorobenzene
p-Dichlorobenzene
o-Dichlorobenzene
Styrene
Acetone
2-Butanone
Heptane
Isopropylbenzene
Hexane
Vinyl chloride
Chloroethane

dissolving any polar or nonpolar compounds that may exist in a sample. The system was calibrated for the target compounds of SW-846 Method 8270. A three-point calibration was performed for the compounds listed in Table G-5. The sample size used for this analysis was also 1 uL. The temperature program used consisted of an initial temperature of 35oC for 4 minutes and an increase of 10°C per minute up to 270°C.

G.4 RESULTS AND DISCUSSION

G.4.1 Headspace Analyses

The technique used for analysis of headspace from composite samples equilibrated at 90°C for 1 hour was similar to SW-846 Method 3810 "Headspace Method." In this study, the method was intended for identification and quantification of volatile organic compounds with boiling points less than ~100°C.

For analysis of headspace samples, an accurate three-point calibration was performed for compounds that are designated as Air Toxics Standards (see Table G-4). In addition to accurate quantitative determination of these compounds, a complete qualitative analysis was performed on all samples using the combination of computerized library search techniques and a skilled interpreter of mass spectral data. Compounds were identified and semi-quantitative values were calculated using a response factor of one relative to the analytical standard. By far the major components of most samples were hydrocarbons; alkanes, alkenes, and aromatic compounds. In most cases, a definitive identification of specific isomers could not be made, so a class identification was made (e.g., methyl pentane).

In order to determine the relative percentages of the organic compounds, the values which are calculated accurately for compounds included in the calibration curve were integrated with the values calculated on the basis of a relative response factor of one. The total organic content of the sample was then summed and the quantity of each component was expressed as a percentage of the whole to be consistent with the current VOC species profile format. A threshold level of 0.01 percent was used to include a compound in a given profile. See example calculations below for a hypothetical composite sample.

TABLE G-5. CALIBRATION COMPOUNDS FOR SEMI-VOLATILE ANALYSIS

Benzyl alcohol
Bis(2-chloroisopropyl)ether
1,3-Dichlorobenzene
1,2-Dichlorobenzene
Hexachloroethane
2-Methylphenol
N-nitrosodimethylamine
Phenol
Aniline
Benzoic acid
4-Chloroaniline
2,4-Dichlorophenol
2,4-Dimethylphenol
Isophorone
Naphthalene
2-Nitrophenol
N-nitrosopiperidine
Acenaphthene
1-Chloronaphthalene
4-Chlorophenyl phenyl ether
Diethyl phthalate
Fluorene
1-Naphthylamine
2-Nitroaniline
Bis(2-chloroethyl)ether
2-Chlorophenol
1,4-Dichlorobenzene
Ethyl methane sulfonate
Methyl methane sulfonate
4-Methylphenol
N-nitroso-di-n-propylamine
2-Picoline
Acetophenone
Bis(2-chloroethoxy)methane
4-Chloro-3-methylphenol
2,6-Dichlorophenol
Hexachlorobutadiene
2-Methylnaphthalene
Nitrobenzene
N-nitroso-di-n-butylamine
1,2,4-Trichlorobenzene
Acenaphthylene
2-Chloronaphthalene
Dibenzofuran
2,6-Dinitrotoluene
Hexachlorocyclopentadiene
2-Naphthylamine
3-Nitroaniline

TABLE G-5. CALIBRATION COMPOUNDS FOR SEMI-VOLATILE ANALYSIS (Continued)

4-Nitroaniline

Pentachlorobenzene

2,3,4,6-Tetrachlorophenol

2,4,5-Trichlorophenol

Anthracene

di-n-Butyl phthalate

Diphenylamine

Fluoranthene

N-nitrosodiphenylamine

Pentachloronitrobenzene

Phenanthrene

Benzidine

Bis(2-ethylhexyl)phthalate

Chrysene

p-Dimethylaminoazobenzene

Benzo(b)fluoranthene

Benzo(g,h,i)perylene

Dibenz(a,h)anthracene

di-n-Octyl phthalate

4-Nitrophenol

1,2,4,5-Tetrachlorobenzene

2,4,6-Trichlorophenol

4-Aminobiphenyl

4-Bromophenyl phenyl ether

4,6-Dinitro-2-methylphenol

1,2-Diphenylhydrazine

Hexachlorobenzene

Pentachlorophenol

Phenacetin

Pronamide

Benzo(a)anthracene

Butyl benzyl phthalate

3,3-Dichlorobenzidine

Pyrene

Benzo(k)fluoranthene

Benzo(a)pyrene

7,12-Dimethylbenz(a)anthracene

Assume for composite sample A, the following compounds were identified and quantified:

Species	ng	Relative % = (ng/total ng) 100
Benzene*	80	12.82
Toluene*	100	16.03
o-Xylene*	25	4.01
Isopropylbenzene**	62	9.94
Hexane**	50	8.01
Cyclohexane**	300	48.08
Methylundecane**	7	1.12
TOTAL ng	624	100.01

*Compounds that are accurately quantified (i.e., compounds included in the three-point calibration).
**Compounds that are identified using computerized library search and a skilled interpreter of mass spectral data (i.e., compounds not included in calibration).

G.4.2 Semi-Volatile Analyses

Identification and quantification of semi-volatile organic compounds (boiling points greater than 100°C) was made using procedures similar to SW-846 Method 8270 "Gas Chromatography/Mass Spectrometry for Semi-Volatile Organics." This method is very similar to Method 625 proposed in the Test/Quality Assurance Project Plan. For example, the set of target compounds used in both methods is the same. Differences between the two methods are believed to be relatively unimportant as they relate to the overall program objectives. In analysis of semi-volatile compounds, an accurate three-point calibration was performed for target compounds of Method 8270 (see Table G-5).

As discussed in Section G.4.1 for headspace analyses, accurate quantitative determination of the target compounds was performed. This was combined with the qualitative analysis performed on all samples using a computerized library search and a skilled interpreter of mass spectral data. The compounds identified in this manner were quantified using a response factor of one relative to the analytical standard. Similar to the results observed from headspace analyses, the major components of most samples were hydrocarbons; alkanes, alkenes, and aromatics. Since a definitive identification of specific isomers was not possible in most cases, a class identification was made.

The calculations used for developing the VOC profiles from the analytical data are the same as those discussed in Section G.4.1 for the headspace method.

G.4.3 Discussion of Results

G.4.3.1 Gasoline Marketed, Degreasing, and Drycleaning Categories. At the onset of the program, it was anticipated that there would be two relatively distinct ranges of compounds (according to their boiling points or molecular weights). These ranges would be characterized by the two analytical methods. Some overlap was also expected. Comparison of data, based on headspace and semi-volatile analyses, for some composite samples, however, showed a different trend. For the gasoline marketed, degreasing, and drycleaning composite samples, the species identified using the two methods fall approximately in the same range (according to molecular weight). For example, headspace analytical results for the degreasing composite span a range from C6 through C14. The semi-volatile analysis for the same composite covers a similar range from C6 through C12. The respective ranges for the headspace and semi-volatile analyses for the gasoline marketed composite were C4 through C12 and C6 through C12. For the drycleaning composite, these ranges were C7 through C13 and C6 through C16. In the latter case, the identification of a very small quantity of di-n-butyl phthalate (C16) in the sample was attributed to possible contamination prior to sample collection. If contamination did occur, the range covered by the semi-volatile analysis for the drycleaning composite would be C6 to C12, which is in agreement with the ranges observed for the other two composites discussed above.

Although there is good agreement in the ranges of compounds identified and quantitated for the gasoline marketed, degreasing, and drycleaning composites, it is difficult to compare the percentages for a given compound from the two analyses for these categories. In some cases, a compound was reported in one analysis and not reported in the other analysis. The judgement call made by the computer and/or the analyst during analysis of the data (i.e., where peaks do not resolve completely, where there is enough of a valley to decide that another peak is occurring, etc.) was probably one of the reasons why a compound is observed in one analysis and not in the other.

In other cases, the values for the same compound were significantly different. One of the reasons contributing to this discrepancy is probably the use of semi-quantitative values based on a relative response factor of 1 in the VOC species profiles. In some cases, this may have resulted in a significant bias in the relative percentages. Due to resource limitations, it was not possible to fine tune the analytical procedures. It is believed that some effort on method development would be necessary in order to get better agreement between the two methods.

G.4.3.2 Autobody Repair and Graphic Arts Categories. For the autobody repair and graphic arts composites, a wider range of species was observed with the semi-volatile analysis. For the autobody repair composite sample, the ranges spanned using the headspace and semi-volatile analyses were C3 through C11 and C6 through C19, respectively. The corresponding ranges for the graphic arts composite sample were C3 through C12 and C6 through C21. In contrast with the ranges observed for the gasoline marketed, degreasing, and drycleaning composites, the semi-volatile analysis results for autobody repair and graphic arts samples covered a wider range. Several compounds that were not found in the headspace analysis were identified including significant quantities of phthalates.

G.4.3.3 VOC Species Profiles. The headspace analytical results were considered representative of the gasoline marketed, degreasing, and drycleaning composite samples. The semi-volatile analytical results were considered representative of the autobody repair and graphic arts composite samples due to the wider range of compounds identified. Generally speaking, the headspace method simulates real-life situations more closely than the method used in identifying and quantifying semi-volatile compounds. In the latter method, the species in a given sample are forced into a solution (using carbon disulfide in this case). The solution is then analyzed. Solubility of the species in a given sample determines the extent to which the species can be identified and/or quantitated.

The profiles developed in this study include the following:

Profile Number	Profile Name
1190	Gasoline Marketed
1191	Graphic Arts-Printing
1192	Degreasing
1193	Drycleaning
1194	Autobody Repair

G.5 INTERNAL QUALITY ASSURANCE/QUALITY CONTROL

G.5.1 Sampling Quality Control

Sampling quality control activities focused on ensuring the cleanliness of the sampling equipment and the proper logging and documentation of each sample to avoid loss of sample integrity. The time each sample was exposed to the open air was reduced as much as possible.

Gasoline samples were collected in vials precleaned by Radian personnel. Before collecting a gasoline sample, approximately one gallon of gasoline was dispensed to purge the delivery hose of ambient temperature gas which may have lost the more volatile compounds due to high summer temperatures. Letterpress, flexographic, and gravure ink samples were obtained by drawing off ink samples from the actual printing processes. The headspace in the sample vial was minimized as much as possible. The remaining samples (degreasing, drycleaning, autobody repair, and lithographic ink) were all purchased or obtained directly in sealed containers.

Sample compositing procedures were based on proportions developed for each source category as discussed in Section G.3.2. A minimum of five samples from each category was included in each composite.

G.5.2 Analytical Quality Control

The analyses for this program were performed using accepted laboratory procedures in accordance with the specified analytical protocols. The following general QC procedures were incorporated into the analytical effort, where applicable:

- The Analytical Task Leader reviewed all analytical data and QC data on a daily basis for completeness and data quality.
- A master logbook was maintained to record all pertinent sample information.
- All hardcopy raw data (i.e., chromatograms, computer printouts, etc.) were maintained in organized files.

The following sections summarize the results of all analytical QC data. This includes surrogate recoveries, duplicate analyses, control samples, and blank samples.

G.5.2.1 Surrogate Compounds. Each sample analyzed was spiked with surrogate compounds prior to analysis. The use of surrogates is essential to monitor the efficiency of the analytical process. The compounds were spiked into the matrix prior to initiation of any sample preparation procedures (following sample compositing) and carried through the entire analytical process. The QC criteria is surrogate recovery within ±50 percent. The surrogate results are presented in Tables G-6 and G-7. As seen from the tables, all surrogate recoveries were well within the QC criteria, averaging 87 percent for the headspace samples and 94 percent for the carbon disulfide solutions (semi-volatiles).

G.5.2.2 Method Blank. One method blank sample was processed and analyzed for the sample set to assess the background levels present in the analytical system. The method blank was a reagent sample (carbon disulfide) taken through the entire sample preparation and analytical process. It was spiked with the same surrogate compounds and quantitation standards as the field samples so that recoveries could be calculated. (The field sample results were not corrected for the concentrations of compounds found in the method blank.)

TABLE G-6. SURROGATE RECOVERIES OF VOC SAMPLES - HEADSPACE ANALYSES

Sample	Surrogates[a,b]		
	Perfluorobenzene	Perfluorotoluene	D_{10}-Ethylbenzene
Autobody Repair	91	79	74
Drycleaning Composite	90	87	84
Drycleaning Composite (Duplicate)	90	88	87
Degreasing Composite	79	76	84
Graphic Arts Composite	90	86	97
Gasoline Composite	100	98	92

[a] All values reported as percent surrogate recovery.
[b] The QC criterion was surrogate recoveries within ±50 percent.

TABLE G-7. SURROGATE RECOVERIES OF VOC SAMPLES - CARBON DISULFIDE (SEMI-VOLATILES) ANALYSES

Sample	Surrogates[a,b]					
	2-Fluorophenol	D_6-Phenol	D_5-Nitrobenzene	2-Fluorobiphenyl	2,4,6-Tribromophenol	D_{14}-Terphenyl
Graphic Arts Composite	98	94	100	101	89	110
Drycleaning Composite	94	79	77	99	89	104
Drycleaning Composite (Duplicate)	90	79	75	97	97	97
Degreasing Composite	95	78	77	97	93	100
Autobody Repair Composite	87	83	76	96	102	96
Gasoline Composite	90	82	75	95	101	96
Method Blank	107	95	105	105	91	122
QC Sample	102	95	101	104	95	113

[a] All values reported as percent surrogate recovery.

[b] The QC criterion was surrogate recoveries within ±50 percent.

The compounds and their respective concentrations found in the method blank were as follows:

Benzene	62.0 ng/uL
Cyclohexane	62.0 ng/uL
$C16H_{30}O_4$	10.6 ng/uL
Cyclohexene	6.4 ng/uL
Methylene chloride	4.2 ng/uL
Unknown	1.7 ng/uL
N-phenylaniline	1.5 ng/uL

The only compounds present in significant quantities were benzene and cyclohexane. Benzene is a common contaminant found in carbon disulfide and it is virtually impossible to find carbon disulfide which is benzene free. Cyclohexane is frequently added to organic solvents as a stabilizer and cyclohexene is often added to organic solvents as an anti-oxidant. $C_{16}H_{30}O_4$ and N-phenylaniline were both observed in all of the samples analyzed and are both considered to be chromatographic artifacts from the column. The unknown is a small quantity of compound that is an artifact of the column or solvent, which could not be identified. It was not observed in the samples and is considered to be insignificant in terms of quantity.

G.5.2.3 Duplicate Analyses. The composite sample from the dry cleaning category was analyzed in duplicate for both headspace and semi-volatile compounds. The duplicate sample was analyzed in order to evaluate the reproducibility of the analytical methodology for the headspace and semi-volatiles analyses. The QC criteria for agreement of the two results for the same compound, in terms of total micrograms, were within ±50 percent for each VOC detected.

In the case of the duplicate drycleaning headspace sample, the compounds identified were the same, but the signal levels for the compounds in the two samples differed by approximately 50 percent. This roughly 50 percent difference was observed for the two results, expressed in total micrograms. The two samples used to determine results #1 and #2 were taken from the same composite, at approximately the same volume (22.8 grams in one case, 23.3 grams in the other). The same volume of the headspace was injected after the vials containing the sample had been heated to 90°C. Scan times are exactly the same for the same compounds. There is no explanation for the difference in the headspace samples. The only possible explanation is that, for some reason, substantially less material was delivered to the ion source in one case than in the other. Since the quantitation standards were introduced separately from a static dilution bulb, it is possible for the standards to be consistent while the values obtained for the samples differ. The close correspondence of the standards shows that there was nothing inherently irreproducible in the analytical process. The better comparison is the relative percentages (weight percents) of any two compounds which appear to be more reproducible than the absolute values (micrograms). Since the relative percentages are the data that will be used in the VOC species profiles, this is an appropriate comparison.

The two results for the semi-volatiles duplicate analysis are all within the QC criteria of ±50 percent agreement between results #1 and #2 for the same compound. However, several compounds were identified in the second analysis in quantities which were nondetectable in the first analysis. This is not unusual since the presence of a given compound is decided upon by the computer and/or analyst who must decide what constitutes a peak. This type of judgement may explain why in some instances a compound is observed in one analysis and not in the other.

REFERENCES FOR APPENDIX G

1. Volatile Organic Compound (VOC) Species Data Manual - Second Edition, Report No. EPA-450/4-80-015, U. S. Environmental Protection Agency, Research Triangle Park, NC, July 1980.

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